ERK'S

Vol. II

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1935

No. 403

GEORGE ASHWANDER ET AL., PETITIONERS,

vs.

TENNESSEE VALLEY AUTHORITY ET AL.

No. 404

GEORGE ASHWANDER ET AL., PETITIONERS,

vs.

TENNESSEE VALLEY AUTHORITY ET AL.

ON WRITS OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE FIFTH CIRCUIT

PETITION FOR CERTIORARI FILED AUGUST 28, 1935.

CERTIORARI GRANTED OCTOBER 14, 1935.

TRANSCRIPT OF RECORD

UNITED STATES CIRCUIT COURT OF APPEALS

FIFTH CIRCUIT

No. .....

TENNESSEE VALLEY AUTHORITY, ELECTRIC HOME AND FARM AUTHORITY, INC., ARTHUR E. MORGAN, HARCOURT A. MORGAN, DAVID E. LILIENTHAL and CITY OF FLORENCE, ALABAMA, a Municipal Corporation,

Appellants,

vs.

GEORGE ASHWANDER et al.,

Appellees.

Appealed from the District Court of the United States for the Northeastern Division of the Northern District of Alabama.

JAMES LAWRENCE FLY,
General Solicitor, Tennessee Valley Authority, and
WILLIAM C. FITTS, JR.,
Knoxville, Tennessee,
Attorneys for Appellants, Tennessee Valley Authority, Electric Home and Farm Authority, Inc., Arthur E. Morgan, Harcourt A. Morgan and David E. Lilienthal.

WILLIAM H. MITCHELL,
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FORNEY JOHNSTON and
JOSEPH F. JOHNSTON,
Birmingham, Alabama,
Attorneys for Appellees, George Ashwander et al., Plaintiffs.

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In the United States District Court
For the Northeastern Division of the
Northern District of Alabama

George Ashwander, et al.,
Plaintiffs,
v.
Tennessee Valley Authority, et al.,
Defendants.
No. 355
In Equity

NARRATIVE STATEMENT OF EVIDENCE.

Now come the defendants, Tennessee Valley Authority, Electric Home and Farm Authority, Inc., Arthur E. Morgan, Harcourt A. Morgan, and David E. Lilienthal, by their solicitors of record, and pursuant to Equity Rule No. 75, as last amended, present to the Court this narrative statement of the evidence taken on the trial of the above styled cause.

The following matters were stipulated by counsel in open court:

1. That all of the individual plaintiffs are over the age of 21 years, are residents of Alabama and owners of the preferred capital stock of the Alabama Power Company of the class and in the amounts set out in the original bill of complaint.

2. That the plaintiff, Tutwiler Investment Company, is a corporation of the State of Alabama, having its principal office in Jefferson County, Alabama, and is the owner of 56 shares of the 7% preferred stock of the Alabama Power Company.

3. That the plaintiffs have been and are the registered and/or beneficial owners of their respective holdings of said shares from a time antedating the matters complained of in the bill of complaint.

4. That the Alabama Power Company is a corporation of the State of Alabama with its principal business office in Jefferson County, Alabama, engaged in the manufacture of electricity by hydro electric and steam plants, and in the transmission and distribution thereof, engaged in the business of a public utility generally throughout the State of Alabama and rendering service in each and every county thereof, except the counties of Pike and Conecuh.

5. That the Tennessee Valley Authority is a body corporate created by an Act of Congress, approved May 18, 1933, known as "The Tennessee Valley Authority Act of 1933" (Public No. 17, 48 Stat. 58; Title 16 U.S.C., sec. 831, et seq.), with its principal office established by said Act in the vicinity of Muscle Shoals, Alabama, and declared by the Act to be an inhabitant and resident of the Northern Judicial District of Alabama within the meaning of the laws of the United States relating to venue of civil suits, and further declared by said Act to be subject to suit.

6. That Arthur E. Morgan, Harcourt A. Morgan, and David E. Lilienthal are over the age of 21 years, are the three chief executive officers and the sole members of the Board of Directors of the Tennessee Valley Authority, which is charged with the duty of directing the exercise of the powers of that corporation; that these same individuals hold and exercise the power to vote all of the capital stock of and are also the sole directors of the corporation of the State of Delaware known as Electric Home and Farm Authority, Inc.

7. That the Electric Home and Farm Authority, Inc. is a corporation of the State of Delaware and on, to-wit, June 14, 1934, qualified for the transaction of business in Alabama and designated a resident agent for service.

8. That the Chemical Bank and Trust Company is a corporation of the State of New York and is successor trustee under a mortgage and deed of trust from the Alabama Power Company to the United States Mortgage and Trust Company, as trustee, dated March 1, 1916, and is also successor trustee under a mortgage and deed of trust from Alabama Power Company to United States Mortgage and Trust Company dated June 1, 1921.

9. Guaranty Trust Company of New York is a corporation of the State of New York and is trustee under a mortgage and deed of trust from Alabama Power Company to Guaranty Trust Company of New York, dated December 1, 1926.

10. Alabama Power Company is a public utility engaged in the sale of electricity, qualified and operating generally throughout the State of Alabama, having, according to its reports on file with the Alabama Public Service Commission, an investment in plant and equipment of approximately $179,811,986.07, consisting of hydro electric generating plants having an installed capacity of 583,000 h.p.; steam generating plants having an installed capacity of 217,170 h.p.; 3,592 miles of high-tension transmission lines, 3,860 miles of distribution lines and all equipment and facilities necessary for use in generating, transmitting, distributing, metering and delivering electric energy in the State of Alabama. The company is now serving 97,380 direct customers, the aggregate of whose demands are 519,000 h.p., and has an actual installed capacity of 54% in excess of its present demands. Included in the number of

customers which the company is serving directly are municipalities and other distributing companies owning their own systems which serve 83,000 customers, making a total of 180,380 customers served directly and indirectly by the Power Company. The services of the company, together with its rates, are regulated by the Alabama Public Service Commission. Its property is situated in or its services extend to 66 of the 67 counties in the state.

11. That included in the properties of the Alabama Power Company are the transmission lines, easements, franchises, distribution systems and other properties described or referred to in exhibit No. 1 to the original bill of complaint. All of the fixed properties of the Alabama Power Company included and referred to in said exhibit No. 1 are subject to the lien of the several mortgages and deeds of trust referred to in Subdivisions F and G of section 3 of the bill of complaint, all of said instruments being of record in the counties in which the respective items of property are situated.

12. That the stock control of Alabama Power Company rests in the Commonwealth and Southern Corporation, a top or holding corporation of the State of Delaware not doing business or subject to service in Alabama, which is owner of all of the common stock (3,775,000 shares) of Alabama Power Company carrying equal voting power, share for share, with the 367,207 shares of preferred stock outstanding. The preferred stock was issued and sold at from $93 to $102 per share for cash.

13. That by ownership of common stock the Commonwealth and Southern Company has the voting control of the following operating utilities doing business in the states of their respective names: Alabama Power Company, Georgia Power Company, South Carolina Power

Company, Tennessee Electric Power Company, and Mississippi Power Company.

It was here stipulated between counsel in open court that the averments as to the development of power by the Alabama Power Company for distribution throughout the system, pursuant to state laws, Federal grants and licenses contained in exhibit No. 12 to the original bill of complaint, are correct except that Subdivisions K and L of said exhibit No. 12, appearing on pages 202 and 203 of the printed bill of complaint, were excepted from the stipulation and not admitted, and the following clause, appearing in Subdivision M of said exhibit No. 12 upon page 203 of the bill of complaint, was excepted from the stipulation and not admitted: "and since that time has extended its electric service in good faith and in due course in the northern part of Alabama, including the Tennessee Valley area, so that at the present time it provides such service over practically the entire area." The following clause in the last paragraph of Subdivision M of said exhibit No. 12 was also excluded from the stipulation and not admitted: "under agreements with the municipal authorities to serve the public for an indefinite time."

SECTION I.

PLAINTIFFS' MAIN CASE.

DR. ARTHUR E. MORGAN,

whose deposition was taken by the plaintiffs beginning at 10:00 o'clock A.M. on January 18, 1935, before Wilber W. Piper, Examiner, testified upon **direct examination** as follows:

I am the Chairman of the Board of Directors of the

Tennessee Valley Authority, and also Chief Engineer. I was appointed as Chairman of the Board of Directors in 1932 and hold office for a nine (9) year term. Since the date of appointment I have devoted my entire working time to the business of the Authority. (At this point the witness identified a communication to the President of the United States from the Authority transmitted by letter dated May 10, 1934, which communication was transmitted to Congress by the President under date of May 10, 1934.) The estimate of appropriations for the fiscal year ending June 10, 1936, revised November, 1934, as set out in the answers of Tennessee Valley Authority to Interrogatories No. 7 and 8 (R. p.), was prepared by the Authority and was submitted by it to the Director of the Budget for the purpose of budgeting the requirements of the Authority for the fiscal year 1936. So far as any facts were stated in the budget estimates, and the accompanying justification, they were correctly stated. I do not know the circumstances under which the justification, accompanying the budget report as submitted by the Authority, was altered before being published in the budget accompanying the President's message dated January 3, 1935. I can not recall that anyone had been authorized by the Board of Directors to make any changes in either the justification or the budgetary request. No one would be authorized to make any changes without authority from the Board.

I testified before the sub-committee of the House Committee on Appropriations of the 73rd Congress, Second Session, beginning on Monday, May 21, 1934. Since the occasion of that testimony I have read over the report of the statement as published by the government printing office, and found it to be substantially correct. The circumstances of my appearing and testifying upon that occasion, were that I was requested to appear before the

Committee. That request was made upon me as Chairman of the Board of Tennessee Valley Authority. The members of the Board of Directors knew that I was to appear, and there was no objection on the part of the Board to my so appearing. The statement previously identified, which appears on page 170 of the printed proceedings before the Committee, accurately portrayed the knowledge of the Authority with reference to the matters dealt with as of the date of its compilation. This statement was introduced in evidence as plaintiffs' exhibit No. 22, and is as follows:

Plaintiffs' Exhibit No. 22.

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(Statement submitted by Dr. A. E. Morgan to Sub-committee of House Committee on Appropriations, 73rd Congress, Second Session)

Tennessee Valley Authority—Summary of major programs, fiscal years 1934 and 1935

Programs	Fiscal Year 1934	Fiscal Year 1935
I. Dam and Power House Construction Program		
Major construction work on Norris and Wheeler Dams, including installation of generating equipment; purchase and clearing of land for the reservoirs; railway, highway, and cemetery relocation. Also preliminary work on the construction of several additional dams needed in the control and utilization of water resources of the Tennessee Valley	$16,310,606	$44,501,167
II. Power Program		
To promote the increased use of electricity at lower rates, including construction of transmission lines; purchase of power systems in certain counties of Alabama, Tennessee, and Mississippi; construction of rural electrification lines in those counties; further extension of present system; and research and demonstrations in the electric appliance field	6,678,974	18,570,785
III. Fertilizer Program		
To develop and demonstrate new processes for producing fertilizer at low prices, including design and construction of blast and electric furnaces; use of existing plant at Muscle Shoals; development of new methods of marketing and the supervision of practical demonstration of farm use	1,964,080	3,187,073
IV. Plans and Demonstrations for the Development of the Tennessee Valley		
Surveys of water resources as a basis for unified control of the Tennessee River and tributaries; soil erosion control; reforestation; the further use of mineral resources; the promotion and coordination of industry and agriculture; surveys and plans for the use of land and the physical development of the Valley; cooperation with local, State and Federal agencies	1,073,786	5,229,488
V. Supervision and Coordination		
Undistributed expense of board of directors, coordination office, legal, financial, and employment services	250,000	500,000
Total estimated cost	26,277,446	71,988,513
Less Appropriation OX645	26,277,446	23,722,554
Additional amount required		$48,265,959

In general, the statements made to the committee on that hearing were to the best of my knowledge and belief at that time in accordance with the facts, in so far as such statements related to the plans and program of the Authority. The course of the hearing was apparently not aimed at developing the program of the Authority, and it was not possible to state accurately the program and policies. The questions for the most part related to certain parts of that program, and there was no opportunity given for any full statement. The budgetary statement presented at the hearing did not purport to make any statement of the plans and purposes of the Authority, but in so far as the program of the Authority involved the expenditure of money, that budgetary statement was in accordance with the facts as they existed at the time to the best of my knowledge. The statements made by me at this hearing did not represent my best ability to reply to the matters concerning which inquiry was made, because no opportunity was afforded to make a complete statement. The questioning was not in a manner that was for the purpose of developing the program of the Authority. It was an effort to ask questions in such a way and in such a manner as might give evidence as to the weakness of the program. I did not indicate that to the Committee. I repeatedly endeavored to indicate the program and was repeatedly drawn back to a certain specific line of questioning. That was even more the case in the Senate hearing. The same statements I have made as to the House hearings would apply as to my testimony before the Senate Committee.

I do not in any sense intend to suggest the inaccuracy of any of my answers before the Committees, but merely that they were in some respects inadequate.

In the course of my duties as Chairman of the Authority,

I have made a large number of public addresses. Statements made by me in such speeches are correct statements of my personal opinions, some of them are statements of fact, based on my knowledge of the actions and plans and program of the Authority.

As to your question whether in the circulation of those addresses by the Authority there has been any action put forth to supplement the accuracy of my statements or to correct or withdraw any of them as statements of fact as bearing upon the program and objectives of the Tennessee Valley Authority, I would say that the other members of the Board of Directors have expressed their own personal views and policies, and it is possible that there are elements of policy upon which there has been no formal consensus of opinion reached by members of the Board. In public speeches there are expressions of opinions and attitudes by the individual directors that have never received official approval by the Board. The resolution of the Board dated June 26, 1933, to the effect that no employee of the Tennessee Valley Authority make any statements respecting matters of future policies or activities of the Authority before such policies, or activities, have been brought before the Board, and action taken thereon, has not been interpreted as applying to members of the Board. The plans, program and policies of the Authority have been in the process of growth and development, and each of the directors in his public speeches has, to the best of his ability, expressed the spirit and the purpose, and the aims of the Board. In public speeches it is necessary to use language that is generally understood. I believe that the general temper, purpose and outlook and the general policies presented in those public talks correspond to those of the Board but I think that in all probability there are points where as time goes by and the policies of the Board become

more and more defined and explicit that modifications and developments of those statements are in order and the effort to express to the public the general temper and purpose and policy of the Board can not be limited to a quotation from the minutes of the Board. I should say that a true picture of the plans and program and functions and objectives of the Authority is to be gained more fully and more effectively from the statements than from mere legal formula set out in the minutes of the Board.

It is a fact that my working time is the time of the Authority. I give and devote my time to the Authority and in absenting myself from the routine of my work to make public speeches, it was my intention to serve the purposes of the Authority. It is the policy of the Board to leave to the discretion of the individual members the manner in which they may express their personal views and opinions. The method of forming a policy by stating its various developing phases to the public has been a function of the Directors of the Authority. These public addresses were in the main reproduced by the Authority and circulated by it. The individual directors have stated their own personal views upon subjects where the Board could read them, and sometimes the other members did not share in these views. There have been a great many occasions where the first that I would know about a statement of another one of the directors was the mimeographed release.

In referring to the functions of the President with reference to the plans, program, and activity of the Authority, I meant that, with reference to certain matters, the President, by the terms of the Tennessee Valley Authority Act, is specifically given certain functions and duties.

The power program which was released under date of August 25, 1933, was adopted by action of the Board of Directors, and is still being circulated by the Authority.

With reference to the statement in the minutes of the Authority of October 13, 1933, (in evidence as plaintiffs' Exhibit No. 5, referred to below) to the effect that the public utterances of the President are elemental in the power program of Tennessee Valley Authority, I will say that various utterances of the present President of the United States had been brought to my attention prior to October 13, 1933, and at that time I was familiar with a volume called "Looking Forward," which contained some of the speeches of the President. I was familiar with the Portland Address and with his statements as Governor of New York, and I was generally familiar with other speeches and expressions of opinion.

The statement appearing in the second paragraph of the justification attached to the estimate of appropriations for the fiscal year ending June 30, 1936, which is attached to Exhibit No. 7 and 8 of the answers of Tennessee Valley Authority to the interrogatories to the effect that the power resources are to be used as a "yard stick" in determining the relative cost, is a suitable statement of policy in association with the other elements of policy with which they are connected. The Authority has a policy of requiring in purchases of its surplus power, a condition of resale as to rates and accounting as required under the statute.

It is the policy of the Tennessee Valley Authority to endeavor to bring about a condition under which such control of the waters of the Tennessee River, and its principal tributaries as is secured for navigation, flood control, water power and other purposes, shall be in accordance with an integrated program. There is no intent on the part of the Tennessee Valley Authority to develop all of the potential water power on the Tennessee River, and its principal tributaries, at least within any determinable period of time. The policy of the Authority is that such development as

does take place, shall be in accord with an integrated plan. For the present that means under the control of the Tennessee Valley Authority or of the United States. In following out that policy the Authority has in one case taken steps to prevent the development of dams by parties other than the Tennessee Valley Authority. It did file with the Federal Power Commission, under date of May 21, 1934, a communication signed by the Chairman of the Board, and in accordance with a resolution of the Board of Directors authorizing such action, a protest and objection to the proposal for the granting of a license by the Federal Power Commission to the Southern Industries and Utility Company for the building of a dam at or in the vicinity of Aurora. There was a hearing before the Federal Power Commission upon the protest. An agreement has been entered into between the Authority and the Southern Industries and Utility Company with reference to the matter. As the Southern Industries and Utility Company has planned to construct the dam it would cut down on the available power at Pickwick, and would also require the construction of an additional navigation dam over and above what other plans might provide. The letter of May 21st is a fair statement of the situation as the Authority sees it. (This letter was introduced in evidence as plaintiffs' Exhibit No. 19, and is also a part of the minutes of the Tennessee Valley Authority dated May 20, 1934, in evidence as plaintiffs' Exhibit No. 41-G, R. p. ...). The release dated December 18, 1933, represents my opinion, and so far as I know is correct. (This release is in evidence as one of the releases attached by Tennessee Valley Authority to its answers to plaintiffs' interrogatories, hereafter referred to, R. p. 619).

The Authority is purchasing land at various places where reservoirs will probably be built in the near future

and it has purchased some property within the flowage area of the proposed Fontana Dam on the Little Tennessee River. The dam at that site is among the dams that might be built and is important both for power and for storage. That site is upstream above two privately owned dams already in existence. No further lands have been purchased in that reservoir area. Studies are under way to determine the advisability of constructing a dam at the Fontana site. Studies are under way over all the tributaries with the idea of demonstrating the relative advisability and importance of dams and also with the idea of integrating all such improvements under the control of Tennessee Valley Authority. There is no reason for the inference that the purpose of purchasing the land was to block any development by private interests. As to your question whether it is the policy of Tennessee Valley Authority to stop or control any substantial development of water power on the tributaries of the Tennessee, it is the policy of the Authority to endeavor to prevent the waste of natural resources and to get the fullest value for the protection of river and channel and flood control and to have this carried through in accordance with public economy and not with waste and it is our policy to achieve those results by proper and appropriate means. The only purpose for the purchase of the land in the vicinity of the Fontana Dam site was to give the public, as represented by the Tennessee Valley Authority, an opportunity to have its interests protected. The Authority has taken no steps to oppose the construction by the Swann Corporation of a dam on the Hiwassee and Nolachucky Rivers. I do not think that is a feasible development and there is no need to oppose it. We have taken no steps except to indicate that as a matter of public policy we think any control of

the Tennessee River area should be in accordance with an integrated plan.

The statement appearing in the article written by me in the National Municipal Review for November, 1934, contained in the paragraph entitled "The TVA Policy" represents my opinion and I think it is a correct statement of the policy of the Board of Directors. This excerpt identified by the witness was as follows:

> "Congress and President Roosevelt have asked that the Tennessee Valley Authority evolve a 'yardstick' to determine a reasonable rate for the sale of power in this country. To do this, it is necessary to generate and sell power on such a scale that the operation can be representative of efficient management. The authority's first step, therefore, in carrying out such an assignment was the preparation of the following power policy:" (Here the statement set out in full the power policy of the Tennessee Valley Authority already set out in the record as Exhibit No. 3 to the bill of complaint, R. p. 108).

The statement before the Appropriations Committee of the House of Representatives appearing on page 138 and the top of page 139 of the printed proceedings is a proper statement, same being as follows:

> "There are a number of reasons why the Tennessee Valley Authority has not considered issuing bonds. One reason is as to the adding to the financial obligations of the Government. We would want any bond issue to be a part of the fiscal policy of the Government, as to how many bonds should be sold at any one time.
>
> "Another thing is this. For a number of years to come the resources of the Tennessee Valley Authority in its power program ought to be used, I think, in ex-

tending that program, in the extension of rural lines, and the building up of a system.

"It will be some time before that program ought to be returning its cost, I think. That is to say, there are just two ways of doing it.

"One is to go ahead and build a dam with bonds and to use the income to pay interest and provide a sinking fund, and then to call for further appropriations for extensions. The other is to build that dam out of appropriations and then have the income for extensions."

The following statement appearing on page 156 of the printed proceedings before the House Committee in the fifth paragraph from the top of the page corresponds to my judgment of the policy of the Board:

"In our opinion, if we can carry through the program we have, we may cause a temporary disadvantage to the immediate power interests around there—to the companies immediately surrounding us. We are trying to make arrangements with them to purchase their utilities. This project is an effort to set up a governmental development of power, and, if that is adopted, it seems to me a reasonable set-up that it should not be hamstrung and so limited that it is bound to fail. . . . We are trying to set up a unit that will be comparable to a well-managed private unit."

The Tennessee Valley Authority must have some adequate transmission arrangements in order to have some outlet for its power. We are attempting to obtain that both by agreement for use over other lines and by the construction of our own lines. We are not committed to either of those methods and are reserving judgment as to what method will be employed.

I cannot answer as to what transmission systems are in-

cluded in the item in the 1936 Budget request (Exhibit No. 7 and 8 to Tennessee Valley Authority answers to plaintiffs' interrogatories, infra, R. p.) entitled "Purchase of Additional Transmission System, $5,017,000." I believe that a part of the properties have been selected, that a part are under negotiation, and that a part are under consideration. There are certain lines concerning which there have been negotiations, but we are not certain as to whether such negotiations will be carried forward, and I think it would be improper for me to discuss them in detail. No properties of the Alabama Power Company are included in that estimate. The purchase of additional transmission systems would be both for the purpose of connecting dams under construction and for carrying power to the market. I decline to answer any further questions upon that subject. (Note: The witness was specifically asked to state what existing system was being negotiated for and declined to answer the question.)

In using the expression that "further steps will be taken to round out the electrical system" I meant to build up the system as an integral and independent unit. The determination as to what shall be done in the development of the system is within the proper discretion of the Board.

No bonds have been issued under the provisions of the Tennessee Valley Authority Act authorizing the issuance of $50,000,000 of bonds.

Replying to the question as to what is the relationship of a transmission line—such as a line from Pickwick Dam to Memphis—to navigation, I will say that some years ago the Congress established the policy of making the Tennessee River navigable. It passed legislation to that effect and authorized expenditures. That legislation considered navigation alone, except as private companies might cooperate with the government and share the expense. The

carrying through of that program of navigation alone brings about a loss of public interest in two ways. It makes navigation of the best kind so expensive that it cannot be feasibly carried through, and it wastes very great incidental values. The effect of carrying out the Tennessee Valley Authority Act is to reduce the cost of navigation, and also to save the waste of great values. The building of dams is a question of money. If we are to have a program of navigation alone by a series of low dams, we get an inferior type of navigation, and we also surrender the possibility of conserving the great reservoir of power. In a navigation program the depth is one single factor. There are other factors of importance. There is the factor of the washing in of silt. The Wheeler Dam, as it is being constructed, takes the place of four low navigation dams. It takes only a little longer to go through one high lock than it does a low lock so that the time lost in going through that area would be cut to approximately one-third by one high dam as compared with four low dams. A high dam costs more than a series of low dams so that if navigation alone is to pay for the cost, low dams are more economical in the first cost. If you can carry that cost with power, then the high dam becomes more feasible. That is the fundamental reason why the association of power and navigation is a more economical proposition than trying to separate the two.

Pickwick Dam is to have no power unit installed in it at present, but emplacements are being provided. What is economical for navigation alone has been decided by the United States Congress. They adopted a program for low dams and that represents their judgment as to what the United States can afford if navigation alone is to be considered. That represents the judgment of the United States Army Engineers for navigation alone and I believe I

would concur with them. The dams function just as well so far as navigation is concerned without any generators other than a small amount to actuate the locks. If navigation alone were considered, the emplacements and installations in the dams would be of a different type, we would make a smaller installation, and that would bring about an enormous waste of power by not using it. So far as the generating equipment is concerned, its purpose is to avoid economic waste; that is the relationship to navigation. It would not do any good to have generating units in a dam if it were permitted to remain idle. In order to avoid economic waste it is the theory of the Authority that we must install generator units as rapidly as we can find a market for the current. We don't propose to install them until we can see some way of finding a market. The generating units would be of no use to navigation or from an economic standpoint unless some of the power could be sold. The relationship is one of economics. If cost was not an item we could build navigation systems with no generating equipment at all, and we would get the same quality of navigation as we would with generating facilities, but the development of electric power makes the construction of dams economically feasible, and that economic factor establishes the relationship between the power program and navigation.

High dams in the main river give more elbow room, that is, more freedom of motion for boats in passing and they carry navigation up the tributaries. For instance, in the case of Wheeler Dam, you have navigation about forty miles up Elk River. Another factor is that of silting. With low navigation dams you might have to put in a dredge to dredge out your channel and keep it open in a few years, whereas with the high dams you might store your siltage for years and years before you would

have to put in a dredge. All of these factors are important in making a high dam better than several low ones. If the difference in cost can be shared between navigation and power you make it economically feasible to get a better type of navigation. That is an economic question. The width of the locks are the bott' necks in any navigation program; but it is better to have a system with a few bottle necks than bottle necks all the way.

Besides contributing to the cost of the dams, the power could make possible a very much better social and economic condition for the region. That aspect is an essential part of the relationship of the power program to navigation, and it is in part on the social development of the region that our program is based. It is the general policy of the development of the region and its social value. So far as the generation, transmission and distribution of electric power is concerned, the principal factor is the economic relationship, plus desirable social objectives. Our attitude is that given the primary purpose of navigation, it is our business to see to it that incidental purposes shall serve as large a proportion as possible of the values inherent in the situation. Navigation is the primary matter. That is what controls. If there were an issue between navigation and power, power would have to give way. But so long as that primary consideration is kept in the clear, it is in no way invalidated or vitiated.

There are three policies that could be followed in the operation of Cove Creek (Norris) Reservoir. First, we could operate it for navigation alone and let floods take their chance; we could operate it for floods alone and let navigation take its chances; or we could, in addition to the storage capacity required for navigation provide additional storage capacity and in that way

serve both purposes. That is the course we have pursued. We have approximately 40% of the storage capacity allocated to flood control alone. About 60% of the storage capacity is designed for the three purposes of flood control, low water navigation and power. If we were building this dam for navigation alone, we would have built a much lower dam and would have provided storage capacity that would be justified for low water navigation and for power. The operation for power coincides fairly well with operation for navigation. You want the low water raised for navigation in the dry season. There are statements in the law requiring us to give attention to navigation in the design and operation of Cove Creek (Norris) Dam and we have interpreted our duties as requiring us to see the whole picture; navigation for low water, flood control and its effect on navigation, and power.

By releases from Norris Dam the minimum navigable depth in the river below will be increased by various amounts in various stretches. The release of water from Norris will have its effect on the lower river and upon the Mississippi River. It will increase the depth of the Tennessee about a foot and a half. The effect on the Mississippi River is not large but would be about the same as that of the Chicago Drainage Canal under old conditions.

The construction of the further dams referred to in the Budget as "Main River dam" and "Tributary dam" has not been determined upon. We are making studies and there are several alternatives. It is possible that these studies might develop that no dams should be built in the vicinity of Aurora Landing at all. It is possible that with one or two more dams like Norris, since that dam will almost make the difference between

good navigation and bad navigation below the site of Pickwick Landing, no navigation dam at Aurora will be necessary. We are attempting to work out an integrated program and we are arriving at conclusions as fast as we can.

As to the question as to wherein integrated control is any better than control by reservations and imposition of conditions under the Federal Water Power Act, I believe that in actual operation, the imposing of conditions under license from the Federal Power Commission would not be feasible. For example, we might impose conditions on a private company building Norris Dam or building a dam where Norris Dam is and that would not be enough. The dam at Norris is bigger than is justified by the flow at that point, but taking it from a power and navigation standpoint it is justified in a considerable degree because it will contribute to the power available at the dams below so as to make them feasible. The construction implies an integrated control that would not be possible working through private agencies. I believe that the working out of such an integration under private interests would be so complicated that it would not be feasible.

As to whether our electricity program contemplates the doing of all those necessary and customary acts to promote and extend business and to serve the public and to advertise that an ordinary commercial utility system would carry on, some of these matters are under discussion by our Board and have not been decided upon. The matter of advertising, for instance, is at present under discussion. I think the item of $100,000.00 for "sales promotion" in the Tennessee Valley Authority budget for 1935 has reference to Electric Home and Farm Authority, Inc.

Electric Home and Farm Authority Inc. was brought into existence for the purpose of creating cooperation between the manufacturers of electrical equipment, the sellers of electrical quipment and the utility companies in order to bring about greater sales of such equipment through the development of credit agencies, through the reduced rates for power and the reduced prices for appliances. It was in the interest of the general program of the Tennessee Valley Authority. The action of the President in appropriating $1,000,000 for its original capital and the issue of the Executive Order for its creation under the laws of Delaware resulted from a request by the Tennessee Valley Authority. The Directors of the Authority are the directors of Electric Home and Farm Authority, Inc. Young & Rubicam, an advertising firm, was employed by the Authority to consult with respect to appliance sales. I believe it is true that they were employed by the Authority and paid half by the Authority and half by the Electric Home and Farm Authority, Inc. They devised the insignia or symbol of Electric Home and Farm Authority, Inc., and we considered it all in furtherance of the same general objective.

I should say that within the limits of appropriations by Congress and within the exercise of business judgment, additional extensions and installations of hydro electric equipment is a matter within the discretion of the Board of Directors. We could employ the fifty millions of bonds which we hold as a back log in any proper conclusion which we might reach within the limits of the Act. If the Authority enters into a service area, by negotiation or otherwise, and the existing utility withdraws, either by sale or financial disaster, the Authority should recognize its obligation to take care of the public service that is thus withdrawn. It would

not be according to public policy to leave an area without service.

I am familiar, generally, with the developments in the City of Memphis and the fight of that city for public ownership. Representatives of the Authority aided the citizens there with such information as they were requested to furnish. Mr. Lilienthal and Myself made speeches there immediately prior to that election. I made one talk there that was arranged for six months before the election, and had no connection with it. In the discussions of the Board, it seemed that it would be desirable to have a large city somewhere as a part of the outlet for power. Beyond that discussion we have not reached any conclusion. I believe it is true that we have made assurances to the City of Memphis that if it takes over the utility plant or constructs a municipal system it may look towards the Authority for service. The logical extension for service of a line to Memphis by the Tennessee Valley Authority if we undertook that service would be from Pickwick Dam. There is no plan on the part of the Authority to extend its services to any town within reasonable reach where a fairly satisfactory load will be assured. So far as I can see there is no obligation on the part of Tennessee Valley Authority to extend its services beyond what would seem to be in accordance with good business policy. We are under no obligation to meet all requirements for power. The Board would reserve judgment as to any particular case. I have personally felt that we should limit ourselves to an area that could be properly served.

No decision has been reached as to the installation of generating equipment in any dams other than Norris Dam and Wheeler Dam. That would depend on the site selected for the dams and the demand for power. As to

the Wilson Dam there will never be ten additional installations there. The unified control of the river changes that situation. There will be a much greater economical and effective use of power which will mean that the prime power will be greater and the secondary power less, which would make installations unnecessary. In the construction of Wheeler Dam there is provision for eight generating units. At Pickwick there is provision for six such units. Additional installations at Wilson will depend on the development of the entire plan and the market for power. Our determination of the market for power would, to a very considerable degree, be made in the same manner as any utility. There is this difference, perhaps, we have cases where power is being sold at lower rates than heretofore prevailing, and it is the belief of the Directors of the Tennessee Valley Authority that through selling power at lower rates, the consumption will increase at a substantially greater rate than would be the case at the prevailing rates for power. I think that the ultimate supply of power that would be available to the Tennessee Valley Authority would be that which would result from a unified development of the Tennessee River under a thrifty and common sense management, and that the range of sale would be such as to absorb the amount of power which would normally result from such integrated development to the degree that was suitable and desirable for the primary purposes of the Authority.

I would say that the integrated planning and development of the region is the method of achieving the primary purposes of the Authority. There are certain primary purposes which it is given to the Tennessee Valley Authority to carry out, such as navigation, national defense and the promotion of the general wel-

fare. By primary purposes I mean those purposes which are controlling and underlying, and which take precedence over the others. In addition, there are accessorial purposes and objectives. By accessorial purposes and objectives I mean those that are truly related to, but are subordinate to the primary purposes. The factors which would lead us to give consideration to these accessorial purposes are first, the fact that such a purpose is genuinely related to the primary purpose, and second, that the carrying out of it will make the primary one more feasible, and third, that the carrying out of the secondary purpose will promote the public welfare. In the carrying out of a clearly defined primary purpose such as the matter of navigation, if there are two ways of doing it, if one way would promote the public welfare by preventing waste or loss of public wealth, while another way would cause great loss, it would be suitable and proper to choose the alternative, which would best promote the general welfare. The foregoing statement as to primary and accessorial purposes was read from some notes I made last night in order that I might substantially and accurately state my conception of the objectives of the Tennessee Valley Authority.

By building high dams instead of low dams we prevent the waste of national resources and in that case the accessory purpose supports the primary purpose by economically making it more feasible. By enabling us to earn money and by being able to charge a part of the expense to power and not all to navigation it makes navigation more feasible. Anything that would contribute to the monetary returns on the structure might relieve the burdens on navigation. Irrigation would be a very clear case in point; it would make navigation more feasible by helping to support it economically. So far as

this question is concerned, I would make no distinction between going into transmission and utility distribution of power and transmission and distribution of water sold generally to the public, if that would support and make more feasible the primary purpose.

In working out the program, our control is the control of the law under which we work. Within the range of discretion permitted by that law our judgment would be based on many considerations. Take for instance Pickwick Dam alone. The area above the site of Pickwick Dam is the least favorable to navigation of any area between Guntersville and the mouth of the river. That is the bottle neck, the shallow area, and so from a navigation standpoint, the construction of Pickwick Dam as the next unit is clearly indicated. At the present time the United States owns the power plant at Wilson Dam and it must use that power in the most feasible manner. Just below Wilson Dam there is so little water that if the flow is shut off in low water seasons, navigation becomes impossible. So, under certain conditions we are estopped from the effective use of Wilson Dam because such use would sacrifice navigation below. If we build Pickwick Dam, we can use Wilson Dam for power to its fullest value. It is such factors as those that enter into our judgment in deciding whether to build a particular dam. In the last analysis the Board reaches its conclusions in its own discretion, within the limits or discretion prescribed by Congress.

It is not possible to state definitely all matters that must be taken into consideration in determining the question of the installation of generating units in dams already constructed. If the United States should become involved in a war, we would push ahead installing those units in order to increase production capacity.

There are a good many factors involved in making such determination. One is whether or not a market exists for the power in the natural course of events. Another is whether in an effort to reduce unemployment and distress in this region, it might be appropriate to associate this program with the general program of the national administration for the relief of unemployment. It is possible, for instance, that in the public works program that the government is now considering, the matter of rural electrification might become a large factor, and that would then be an element to be considered in determining our program. The question of whether a demand exists is one substantial factor to be considered. On the question of whether a demand exists, one factor to be considered is whether the Board wishes to take an existing market, and the question as to whether or not we would take an existing market served by utilities at the present time would be influenced by the judgment of the Board as to whether the public interest or public welfare would be served by taking that market. To some degree the decision upon matters of that sort is a matter for the discretion and determination of the Board of Directors.

The question of unemployment relief and the general program of the administration have some bearing on our purchase of existing facilities. For instance, by purchasing the system in Alcorn County, Mississippi, and lowering the rates we had a great extension of the use of electricity which in our judgment made it economical to build 100 miles of rural lines, which helped the unemployment situation. Thus the purchase of lines, by making us accessible to rural areas where our policy can obtain, makes the construction of rural lines feasible and economical.

The construction of rural lines in Alcorn County has

relation to navigation through making possible the sharing of the cost of the best type of navigation.

It is true that the Board of Directors refused to go forward with the construction of Wheeler Dam until requested to do so by the President. It was the attitude of the Board that an expenditure made earlier than would be justified by the public market for power ought not to be a basis for carrying charges against power. It was our attitude that if an expenditure were made for navigation or for other purposes at a time when it would not be justified from the standpoint of power, the cost should be charged to navigation or to other interests.

The object of installing generating equipment at dams is to generate power, and I would think it would follow that if there would be no use for power there would be no reason for installing the generating equipment. The law provides that the resources of the Authority shall be available to the government for the national defense as called for and that is a very large possibility. The War Department has not called for any power except for the operation of locks. We have had negotiations with the War Department for cooperation, working toward the national defense throughout the Tennessee Valley. The employees of the Tennessee Valley Authority and representatives of the War Department are now engaged in studies of the part that the Tennessee Valley Authority might have in the national defense. This matter has been before us from the beginning. We have discussed it since the first meeting of the Board. That is, what the requirements for national defense might be. It is possible that the manufacture of munitions may become a governmental function. The Tennessee Valley is located a considerable distance inland and in a peculiarly safe region and yet very easily accessible. If the Federal Government should undertake

the manufacture of munitions as a governmental function, I doubt if there is any area in all America so suitable for that purpose as the Tennessee Valley because of the raw materials we have here and the power available.

The question of the installation of additional units is partially determined by deciding what amount of power can be profitably marketed. Eliminating first, governmental uses, and second, the rehabilitation of rural population through rural electrification, I should say the determination as to the time of installation would depend upon the market for power. Those factors are within the discretion and determination of the Board of Directors to the extent provided by law.

During my testimony before the House Committee, I referred to a current seven-dam program. We had been asked by the Director of the Budget to indicate an estimate of the expenditures during the next five years. That estimate included the construction of four dams in addition to those under construction. That estimate would not commit us to that program, but was merely the current estimate as to what the program might involve during the next five years. It was a general outline of the plan as the Authority then conceived it. This estimate was introduced in evidence as plaintiffs' Exhibit No. 20, and is as follows:

Plaintiffs' Exhibit No. 20.

Tennessee Valley Authority

Five-Year Program

Condensed Statement

	Total	1934	1935	1936	1937	1938	1939
Dam and Power House Construction	$129,400,000	$ 7,150,000	$20,750,000	$32,700,000	$19,500,000	$24,300,000	$25,000,000
Land Purchase	27,300,000	2,300,000	11,900,000	6,350,000	4,750,000	1,800,000	200,000
Land Clearing	9,320,000	920,000	4,450,000	2,000,000	950,000	950,000	50,000
Camps, Highways, etc.	6,630,000	2,950,000	1,480,000	1,300,000	900,000		
Highway and Railroad Relocation	19,500,000	200,000	8,550,000	1,450,000	2,200,000	4,400,000	2,700,000
Locks	5,800,000			700,000	2,200,000	2,200,000	700,000
Total Dam Construction	$197,950,000	13,520,000	47,130,000	44,500,000	30,500,000	33,650,000	28,650,000
Power Program	43,450,000	5,150,000	20,100,000	4,800,000	3,800,000	4,800,000	4,800,000
Agriculture and Fertilizer	15,310,000	1,960,000	3,860,000	2,410,000	2,360,000	2,360,000	2,360,000
General Program	24,450,000	1,100,000	4,750,000	4,650,000	4,650,000	4,650,000	4,650,000
Supervision and Coordination	2,750,000	250,000	500,000	500,000	500,000	500,000	500,000
Total	$283,910,000	21,980,000	76,340,000	56,860,000	41,810,000	45,960,000	40,960,000

The dams under consideration in that tentative forecast were Wilson, Wheeler, Norris, Pickwick, Aurora, and one on the Hiwassee or the French Broad. That tentative estimate called for a total of approximately $310,000,000 of which $10,000,000 was reserved for the nitrate plant. Of that amount $100,000,000 was estimated for transmission and distribution facilities. This statement was presented to the House Committee on Appropriations. I stated that we did not know what additional expenditures would be necessary to round out the system so that we would have distribution facilities for that power, as that was contingent upon whether we would build transmission lines, whether the cities should buy distribution systems or whether we could lease lines that are already built. If we should have to acquire all those for ourselves it would represent an increase of about $100,000,000. Many of those figures were contingent and speculative. The contemplation was that the transmission and distribution facilities might be necessary in order to carry power to the market and for other purposes. The purpose of rural electrification might be controlling. A market exists for a human need and we have a concern for the welfare that current provides as well as finding a market for the power. There are various possibilities as to the construction of dams and the disposition of power and the Authority has not committed itself to any one of them. One of the potential plans is transmission and distribution. It is possible that a better plan will be developed. The following statement appearing on page 156 of the printed report of the proceedings before the House Committee is a correct statement of the power aspects of the program:

"Mr. Bacon: When you eventually develop three-quarters of a million kilowatts, it would almost seem logical to take over whatever companies are operating

there. Will not that project be sufficient for the entire section?

Dr. Morgan: It would seem to me to be reasonable to take over certain ones. I do not think the project will be sufficient for the entire section.

Mr. Bacon: That is what I want.

Dr. Morgan: In our opinion, if we carry through the program we have, we may cause a temporary disadvantage to the immediate power interests around there —to the companies immediately surrounding us. We are trying to make arrangements with them to purchase their utilities. This project is an effort to set up a governmental development of power, and, if that is adopted, it seems to me a reasonable set-up that it should not be ham-strung and so limited that it is bound to fail.

"Mr. Bacon: You are taking over the distribution lines?

Dr. Morgan: We are trying to take them over. We were in negotiation with the Commonwealth & Southern, and we have come to an agreement; as the other plants come into operation, we ought to take over more. It is my opinion, in the course of years, we may have a preliminary period when we are in the red. I hope we can help to establish a policy for the power industry, and I believe we are going to get power down to a low rate, and that the use of it is going to so greatly expand that the utilities will be on a sound basis, will be assured of a fair income, but where there is not such an acute controversy as to whether the income is excessive."

In that testimony before the House Committee, in some cases I was expressing explicitly my personal opinions, and in some cases I was endeavoring to state the views of the Authority as such. With reference to that estimate of $100,000,000, we had never discussed it in our Board meet-

ings, but I was asked the question and I made the estimate on the spur of the moment. That method of distribution of power is one of the alternatives under consideration by the Board.

The testimony quoted above, beginning on page 155 of the printed record of the proceeding before the House Committee in my opinion expresses the policy of the Board, but it must be taken into account that this expresses only one phase of the policy with reference to power. So far as the statement is concerned to the effect that the Authority hopes to establish a policy for the power industry and place the utility on a sound basis, we have discussed the hope that the activities of the Tennessee Valley Authority would be a genuine help to utilities in giving evidence that lower rates would increase the use of power. When I say that is our hope, I do not mean that there has been any action about it.

With reference to the following specific statement appearing in my testimony before the House Committee "So far as the power policy is concerned, and that particular phase is the only one that the bond issue applies to, the work of the Authority for a number of years to come must be the building up of an adequate system. The power of the Tennessee Valley Authority to issue bonds is limited to the construction of power plants and power facilities." That is my understanding of the legal limitations, and I was expressing my opinion as to that. So far as the power policy is concerned, the statement "The work of the Authority for a number of years to come must be the building up of an adequate system" may represent the opinion of the Board. It does not represent the total purpose of the power policy, because we will have other things to do besides the building up of a system. I think the development of power and its disposal is accessory to the primary pur-

poses of the Authority. There are three steps. If we are going to build high dams, we will have the potential capacity for power. We will either leave that potential power unused or used. If we use it, then the only possibility of its use is in developing a method for the disposition of it. When I spoke of a power policy I referred to the methods of distribution and generation of the power. I have no knowledge of any attempt to generate power other than as accessorial to the primary purposes of the Authority. I think that the statement, appearing in the testimony before the House Committee, as follows: "Another thing is this, for a number of years to come the resources of the TVA in its power program ought to be used, I think, in extending that program, in the extension of rural lines and the building up of a system" is a correct representation of the attitude of the Authority.

The following statement appearing in the report of the proceedings before the House Committee, (p. 140) "We have this program we are presenting. Those dams will have to be connected by transmission lines. What we are trying to work out is an integrated program for the development of the Tennessee River," represents the attitude of the Authority.

The following statement appearing in the published report of the proceedings before the House Committee: (p. 140) "I may say this in explanation, the Tennessee River has great power possibilities, whether or not that development is economical depends upon whether it is worked out as a unit. Take, for instance, the Muscle Shoals project. Taken as a single unit the Muscle Shoals project is not profitable," should be made more definite. Rather than to say it is "economical" we should say "most economical". We have been making studies of the power at Muscle Shoals, and I think I would be inclined to change my judg-

ment and to say that the Muscle Shoals project itself could be made profitable.

With respect to the following statement appearing in the published report of the proceedings before the House Committee: (p. 140) "If we can develop this power in an integrated way in a number of units, the cost per unit of the electric power will be less than half of what it is with one of these operating by itself," that was my personal judgment and did not refer to any conclusion of the Board, and I am inclined to believe that it should be modified. The following statement appearing in the published report of the proceeding before the House Committee: (p. 141) "Or you might have to come back to a bond issue to finish one, and then out of the rates finish the others. Our program is to do that part of the work at the present time that would do the most for the relief of unemployment. Some of the work is proposed at the present time partly for that reason. Some of it is the kind of work that could be carried to a certain point and left unfinished for a number of years if the power were not needed," could be made more accurate by stating that in deciding what work to do at the present time we would take into consideration the problem of unemployment. To build dams without facilities would be very wasteful, but the actual installation of the generating equipment can be postponed until the equipment is needed.

With respect to the following statement appearing in the published report of the proceedings before the House Committee: (p. 147) "The question of the power that you can sell will depend to a considerable degree upon the cost of the power. If we can get a unified system there, we will generate our power at about half the cost of present power at Muscle Shoals with the balance being applied for navigation," that is a general statement to indicate a very marked

economy of a unified program. That is largely a statement of fact.

With respect to the following appearing in the published report of the proceedings before the House Committee: (p. 148) "Dr. Morgan. It is our idea to make this power development generally comparable with other developments. Mr. Bolton. Comparable with private industry? Dr. Morgan. Yes, sir, with private industry. I might say that I could give you a better example of that by indicating what we have required of communities that buy our power as in the case of Corinth and Tupelo, Mississippi. We are making those requirements in order to make comparisons. We are requiring that the city which retails power shall keep its books entirely separate from the municipal accounts. We are requiring that they shall charge amortization, that they shall charge interest on the investment, that they shall charge taxes and depreciation, and we are setting up the manner in which they shall be charged so that they cannot fudge on their books at all. We are endeavoring in that way to make it a completely comparable situation." It would be more accurate to state that through carrying out the standard of accounting, etc., accurate comparisons are the result. The statement that I was making there was that we are endeavoring to make a fair comparison of costs and that the result would be comparable to private industry as to cost and cost allocations, and not comparable as to the scope of activities.

With reference to the following statement appearing in the report of the proceedings before the House Committee: (p. 155) "Mr. Bacon. On the question of the market for power, do you intend to take power into the big cities like Birmingham and the other industrial cen-

ters of that region? Dr. Morgan. In purchasing from the Commonwealth & Southern Company we made an agreement with them that we would not invade their territory for the present until Norris Dam is completed. After that we hope we can make some arrangement for a division of territory." That is a fair statement of the attitude of the Board as to what division of territory would be made. We hoped that there would be an avoidance of competition by duplication of facilities.

With reference to the following statement appearing in the published report of the proceedings before the House Committee: (p. 156) "In our opinion, if we can carry through the program we have, we may cause a temporary disadvantage to the immediate power interests around there—to the companies immediately surrounding us. We are trying to make arrangements with them to purchase their facilities. This project is an effort to set up a governmental development of power, and if that is adopted it seems to me a reasonable set up that it should not be ham-strung and so limited that it is bound to fail. We are trying to set up a unit that will be comparable to a well-managed private unit. It requires an adequate area. During the years Muscle Shoals was under dispute the private companies surrounded Muscle Shoals with distribution lines. They sterilized it so it would be useless. I hope we can help to establish a policy for the power industry and I believe we are going to get power down to a low rate, and that the use of it is going to so greatly expand that the outlets will be on a sound basis, will be assured of fair income, when there is not such an acute controversy as to whether the income is excessive." This statement was made in discussing the power part of the activities of the Authority, and not the whole of the program. A

more correct statement would be that this project is an effort to set up a governmental development of power that is an essential accessory, as we believe, to the development of navigation. If we are to develop high dams with power facilities they would mean nothing unless the power was developed, and our program does require that surplus power be disposed of. We have done our best to sell such surplus power to the utilities and have asked them to buy more. We are considering selling power to other people at the dam. Under the law we could not sell the entire output at the dam to a private utility.

With reference to the following statement appearing in the published report of the proceedings before the House Committee: (p. 156) "A major purpose of the Tennessee Valley Authority is to develop and utilize efficiently all of the natural resources of the valley. Water resources are being harnessed to make electricity available at very low prices and to bring more comfort and convenience into the homes. There are many other natural resources including coal. We hope to develop many uses for coal. Coal may be used much more extensively for the manufacture of various coal tar chemical products and for a large number of processes in which heat is a primary requirement. Cheap electricity should prove a valuable aid and stimulus of the further utilization of this raw material." I should say that the major difference between the Tennessee Valley Authority Act and the Rivers and Harbors Act which preceded it, is that that Act saw only the saving of the one resource of navigation and the wasting of all other resources. The Tennessee Valley Authority Act has the purpose of not only saving the navigation resources and developing them, but of preventing the waste of public property and of

promoting the public welfare through the accessory purpose. In connection with the coal research and development of processes of that character, it would be the policy of the Board to develop these processes and have them open for general use. In our developments of fertilizer, phosphates and nitrates, there are processes that require a very large use of heat, and this process we are working on seems to lend itself reasonably well to the coordination of the use of coal and electric current in the production of nitrates and phosphates. With the exception of Nitrate Plant No. 2, and the fertilizer activities in relation to it which we inherited from war times, there is no contemplation of entering into the commercial production and sale of any products. The question has arisen from time to time and the attitude of the Authority has been that we have not felt that it would be wise to enter into any such activities. We have made no definite determination, but all of our tentative determinations have been negative on that. Our functions are those of study and experimental demonstration in order to be a guide to industry in the region.

With reference to the following statement appearing in the published report of the proceedings before the House Committee: (p. 163) "Here we have a project as a whole. This project is for a yard stick for power. Taking the set up here, if there is no place to sell that power it is not a project but only an idea. We have to see this as a whole or else we cannot achieve it at all," this discussion was purely as to the power element of the program, and would be more accurate if we would say that this project would result in having a yard stick for power.

With reference to the following statement appearing in the published proceedings before the House Committee: (p. 166) "Dr. Morgan. For the six dams, not counting

the Wilson Dam already built, the cost will be about $200,000,000. The Chairman. That is just for the dams? Dr. Morgan. Just for the dams and the power plants. Of that about one-third roughly would be a proper part for navigation and flood control. Then as to the transmission and distribution systems, if we should have to acquire the distribution systems, and we will not have to acquire them all, we know that, but we do not know what part we would have to acquire, there might be another $100,000,000 to be spent in the course of years to build distribution systems and transmission systems so that this will be an integrated and whole unit,". I have been inclined to assign to navigation only the part of the cost that would have represented the investment in the series of low dams. Now that is my own judgment. The Board has never adopted any policy on that.

With reference to the following statement appearing in the published report of the proceedings before the House Committee: (p. 166) "The Chairman. And what else? Dr. Morgan. So far as the power development is concerned, that is the story. The Chairman. As to power sale and distribution that is the story, $300,000,000? Dr. Morgan. Yes, I do not think we will have to acquire all of that or buy it. The cities would probably acquire their own plants, but if they do not, we would have to come to the rescue." I think that represents our estimate and attitude.

With reference to the following statement appearing in the published report of the proceedings before the House Committee: (p. 187) "Mr. Taber. Have you a market there now for this quantity of power, or is that a development proposition? Dr. Morgan. That must be a development,". I think that statement represents the facts.

With reference to the following statement appearing in the published report of the proceedings before the House Committee: (p. 187) "There is one point in which we are wondering whether power ought to be self-supporting, that is in the rural communities, we are wondering if the urban communities ought not help to support the rural in order to build up their economic status." That is a question that has been under discussion by the Board from time to time. We have many rural areas with more than four customers to a mile; to be self-supporting, those areas would have to be selected. But there are very considerable areas that can be self-supporting. It is correct that upon many southern farms extensive use of current or appliances would not be possible at the present time.

With respect to the following statement appearing in the published report of the proceedings before the House Committee on Appropriations: (p. 199) "Mr. Thurston. Is it one of the prime objects of the program to go into social fields other than just furnishing electrical power to those people? Dr. Morgan. I think that is clearly stated in the President's message (referring to the message of April 10, 1933 requesting organization of the Tennessee Valley Authority) that I read, as well as in his subsequent statement and in the law itself. Mr. Thurston. Is there any more reason for conducting such a project down there than there is in any other section of the country? Mr. Morgan. There is this reason. The whole significance of the Tennessee Valley Authority Act is, as the President says, to take action and to see what we can do toward putting some order and design into the economics of that community as a typical case of regional planning." As I stated before, the distinction between the Tennessee Valley Authority Act and the

Rivers and Harbors Act which preceded it, is that in the carrying out of the primary purpose the Rivers and Harbors Act provided for nothing but that purpose, but the Tennessee Valley Authority Act was designed to save incidental values, by assuring that accessory purposes should be carried through at the same time along with the primary purposes.

With respect to the following statement appearing in the published report of the proceedings before the Senate Committee: (p. 262) "Senator Dickinson. Well, now, in connection with these dams, the entire purpose is the production of electrical energy? Dr. Morgan. That is the major purpose, the purpose of the Tennessee Valley Authority Act of which these dams are a part is to try to encourage and organize an orderly economic and social development in that region in place of the past haphazard development. With reference to the Tennessee River, if we can develop the power on the Tennessee River by a unified and an integrated program, we can, I think, develop power at not over half the rate that it would cost by a series of unrelated dams,". I will just practically repeat what I have said that the purpose of the Tennessee Valley Authority Act was to supplement the bare carrying out of the primary purposes, navigation and national defense, with the accessory purpose, so that the waste would be eliminated, and navigation would be raised to a higher level of quality, and the general welfare would be promoted at the same time that navigation was being improved.

With reference to the following statement appearing in the published report of the proceedings before the Senate Committee: (p. 263) "Senator Dickinson. There is available there sales for the increase in the electric energy that you are now proposing to produce? Dr. Morgan. We be-

lieve that if the rates are suitable the market will develop. We believe that one of the prime reasons that the market is not there is that the rates are so high that it prevents the development of the market, and that the way to create a market is to have rates that will enable people to use power which they cannot use at the present rates." I think that represents the opinion of the Board.

With reference to the following statement appearing in the published report of the proceedings before the Senate Committee: (p. 267) "Dr. Morgan. The establishment of the power policy of the Tennessee Valley Authority which is, by the way, only one item in its program—it has other functions besides power—is an effort, to use the President's language, to establish a 'yard stick' whereby there could be a case of public ownership in order to develop what reasonable costs of power may be. In order for that to actually happen it must have an area in which to sell power. You cannot sell power theoretically, you have to sell it somewhere. That means that these power plants must have some area in which they can actually sell power. If this is to be a fair comparison it means that the area must be adequate. It must be such an area as a well-equipped, well-proportioned utility would have. To give a power plant no territory in which to sell that power would be just one way of killing it. If there is to be a fair comparison as between a public operated project and a private operated project it must have the qualities of a well-proportioned power development. Now, in order to get that it must purchase properties that are already there because all of the time that Muscle Shoals was in contest here the private companies were surrounding the property with transmission lines, so that when the government did adopt the policy of selling power that territory was already fully occupied by the private utilities who had occupied

it during the time of this controversy, so as soon as the government adopts the policy it finds the territory already occupied. We must acquire territory. It is the policy of the Tennessee Valley Authority not to enter into destructive competition if it is possible to avoid it. We have approached the power companies and have tried to enter into agreements with them in which we would purchase some of their plants so that this policy of the government may find expression in the only way in which it can find expression, that is, by occupying certain territory. We have occupied no territory except after agreement and purchase from the private companies, and we hope that will continue in the future.

"Senator Dickinson. What will be your policy in case you find you cannot acquire these properties? Will you construct a competing utility, install a competing plant there?

"Dr. Morgan. Yes, if we cannot purchase at what the property is actually worth the communities may be forced to compete"—that is one of the accessory purposes. If the disposal of power is carried on in an intelligent public spirited manner with good business judgment, its inevitable effect would be to create such a yard stick. There are certain fundamental advantages in public control. The advantage of a unified system is one. There is perhaps the advantage of a lower rate of interest. There are perhaps advantages on the side of private ownership too, and it is the considered policy of the Tennessee Valley Authority to handle its affairs in such a manner that there will be no unfair comparison. So far as the lower rate of interest represents the credit of the government, it is perhaps a proper advantage. As to such factors as freedom from taxation that ought not to enter into it. It is the policy of the Tennessee Valley Authority to eliminate that as a

factor. In determining the price to be paid for these properties, the view has been taken that a part of the value is justified because it is a going concern that we are taking over although it would not be justified on the basis of any physical investment.

With respect to the following statement appearing in the published report of the proceedings before the Senate Committee: (p. 269) "Dr. Morgan. And then we are going further in the distribution of this power to the municipalities. We are requiring that the municipalities set aside reserves for taxes, and in our latest contract we have gone further than that. In the City of Corinth, Mississippi, we are working out a contract with an electric power association which is a private corporation made up of the users of power, and there incidentally it includes the City of Corinth and the rural region around Corinth. The farming region and the city region are all one association with one rate schedule. That being a private association, subject to all taxes from any source, in that way we are entirely escaping any claim of dodging taxes by setting up an organization that has no immunity from any kind of taxes.

"Senator Dickinson. In other words, as I understand it, now you are setting up in a municipality a municipal cooperative organization for the purpose of buying from you electric current and distributing it among the patrons of that locality?

"Dr. Morgan. We are cooperating with an association of citizens.

"Senator Dickinson. And in that cooperative organization what influence do you have on rates?

"Dr. Morgan. We make a contract with them in which we prescribe the maximum rates that they may charge.

"Senator Dickinson. And that is as to the consumer?

"Dr. Morgan. That is as to the consumer.

"Senator Dickinson. Then all that they would be interested in would be the matter of receiving the current and distributing it, charging for it the rate that you specify and collecting and paying you for the current, the balance of it belonging to the cooperative?

"Dr. Morgan. Yes, the balance of it is to go in reducing rates further. They must set aside tax reserves and amortization. In that case we are asking amortization in seven years to pay for the whole plant in seven years, and even then we are approximately cutting the cost in two as compared with their former rates so that we are putting up amortization charges far more drastic than the private utilities are."—That statement would be more accurate if instead of saying that we are requiring certain rates and accounting practices it stated that those matters are prescribed in the contracts.

With respect to the following statement appearing in the published report of the proceedings before the Senate Committee: (p. 271) "The Board is required to insure that current sold by it shall be resold at reasonable prices. That is one of the requirements of Congress."—That was my understanding of the terms of the Act.

With respect to the following statement appearing in the published report of the proceedings before the Senate Committee: (p. 280) "We are endeavoring to carry out the purposes and policies of the Tennessee Valley Authority Act in operation and to the letter so far as the legislative program is concerned which has been discussed here. We are trying to carry that out in the only way that is feasible, that is by having a unit that is of such size and such proportion that it can be representative of a well-organized power unit, and these things we are doing are necessary to bring that about. I would say also that so far as the de-

velopment of the water power of the Tennessee River is concerned that a single power plant on the Tennessee River such as Muscle Shoals is not even economically feasible. Muscle Shoals taken by itself is not an economically feasible unit. If it can be united with others so that reservoir projects can supply it with water in low seasons, we can make it at least three times as effective per dollar investment as it is today, and the same way with Norris Dam. Taken alone, it is not a good investment, but taken in connection with its effects upon the other plants down stream it becomes a very good investment."—That statement relates to the power policy of the Authority, and not to policies other than power. In fact, it was difficult to bring in any subjects other than power in that Senate hearing. The attention of the Committee seemed to be centered on the power feature. When I tried to get their attention to some other phases the discussion was brought back continually to power.

I believe it is a part of my official capacity to popularize and make public the fact of the Tennessee Valley Authority, and a very large part of my duties have been in furtherance of this. I cannot say that everything that I have written since I came to the Tennessee Valley Authority has been for the purpose of promoting its interests. My speeches, etc., were a part of this and that course was fully known to the members of the Board, and a like conception was taken by them of their duties and responsibilities to the Authority.

Upon **Cross Examination** the Witness Testified as Follows:

I began working for engineers in 1901 and in about 1903 began a small practice for myself. That continued

with a short interruption in government service on a survey of public lands in northern Minnesota in 1902 and 1903. In 1907 I entered government service as Supervising Engineer of Drainage Investigations in the Department of Agriculture. I was in the service of the government for full time until 1910 or 1911. Then I went into private practice at Memphis, Tennessee. The firm was called the Morgan Engineering Company. I remained as President of the Morgan Engineering Company until 1913. At that time I became associated with the project for the control of floods in the Miami Valley where Dayton and nine other cities were cooperating to prevent floods. In 1915 I became Chief Engineer for that project. The Dayton-Morgan Engineering Company of which I was President, became Chief Engineer of the Pueblo, Colorado Conservancy District. At about that same time I became President of Antioch College and carried on the engineering practice there. In the course of that practice, either personally or through the Morgan Engineering Company, I had charge of about fifty water control projects, and have been consulting engineer on many others, including such projects as the Missouri River Drainage District, a project in northeastern Arkansas, projects in Mississippi, Louisiana, Texas, Tennessee, Kansas, Missouri, Colorado, Florida, North Carolina, Massachusetts, Maine and other states. That work has included flood control, irrigation, water supply, navigation and most phases of water control. I prepared a revision of the water control law of Minnesota, the revised drainage act of Arkansas, Mississippi, Ohio, Colorado and New Mexico. The Middle Rio Grande Conservancy District of New Mexico was one of our projects. My consulting work has covered dam construction in California, Texas and Kentucky. I was the engineer in charge for

the State of Pennsylvania of the examination of dams during the course of five or six years. I represented the State of Pennsylvania in the Delaware River suit between New York and New Jersey.

In public speeches that I have made since becoming Director of the Tennessee Valley Authority, I expressed my personal judgment and opinions. I was endeavoring to serve the interests of Tennessee Valley Authority in my personal capacity. Before the Board of Directors was appointed I made trips in the interest of the Authority. As I went about the country I was almost forced to express myself, and I made speeches before the present Board of Directors were appointed. I endeavored to acquaint the public with the state of the development of our plans and with my own views concerning them. In general, there are no resolutions of the Board of Directors purporting to authorize any individual member of the Board to bind the Authority in public speeches and statements. There is no rule or policy of the Board preventing one member from expressing his own personal opinion. In making public speeches and statements, there was no intention on my part to commit or bind the Authority to any statements of plans or policies. Except for a few specific cases, I never represented to the public in any speeches or statements that I had any authority to commit or bind the Tennessee Valley Authority or the Board of Directors to any statements made by me. Of all the speeches of the other members of the Board, I have not seen over three before they were delivered. I find that it is impossible to read the speeches of the other Directors before they are delivered. The fact of the matter is that I have not had a chance to read half of them after they were delivered. There are certain phases of the program that are so accepted, taken for granted,

that discussion of them is not called for. They are assumed so far as the public is concerned. There is only one aspect of the program concerning which there is any major controversy and discussion necessarily related to that controversy. I refer to the power aspect of the program.

With reference to my statement on direct examination that the purposes and program of the Authority were represented in the speeches, I intended to say that the general policy and the purposes in general could be more quickly and easily gotten hold of through a general popular statement than they could through technical construction as recorded in our adopted plans. What I meant to say was that an individual could more quickly and easily get at it that way than he could from the minutes of the Board.

The Board of Directors has in no sense considered itself bound by any public utterances of the President of the United States as to policy and program. The formulation of policy has in some cases been influenced by the expressions of the President, as, for instance, the President has recently indicated that in a program of public works the rate of compensation should not be higher than the prevailing rate of wages and that perhaps it should not be as high. Now as to the statements before he was President, I should say that any influence on our policy by them would be as if we should read what George Washington had said. If certain statements were reasonable they might have influence, beyond that they would not have any effect on our policies.

At the time that the Tennessee Valley Authority Act was passed the United States owned a dam and power plant at Muscle Shoals, an auxiliary steam plant, two chemical plants, a large quarry, a reservation of per-

haps 3,000 acres of land, and a navigation lock under construction in the river about twenty miles above Muscle Shoals. The nitrate plant is apparently useful for the manufacture of calcium carbide, and we are making a study to find for what other purposes it is at present useful. It can be used for the manufacture of nitrates, but in comparison with commercial plants it is doubtful whether it is a good use economically for that purpose, and it is valuable for the manufacture of phosphate fertilizer. The controlling factor as to the usefulness or value of the property at Muscle Shoals is the flow in the Tennessee River. That flow fluctuates from a flow that would permit the generation of 55,000 KW in the low season to a flow that would generate perhaps 600,000 KW in extreme high water. The condition of the river below the Wilson Dam is such that even the existing flow cannot be used to full advantage without interfering with navigation below. This results in a large amount of secondary power which is of little value, and in addition a waste of prime power. That condition would not only be detrimental in a situation where it was important or necessary to have a readily available supply of prime power at Wilson Dam, but it prohibits the use of a large amount of such dependable power. All three of the dams now under construction will have a beneficial effect upon that situation. The construction of Pickwick Dam will materially increase the prime power at Wilson Dam as it will make navigation conditions so much better below the dam that all the low flow can be used for developing power. The construction of Wheeler Dam will greatly improve the power possibilities at Wilson Dam. The Wilson Dam pool has only about enough storage to regulate the flow for twelve hours. With Wheeler Dam constructed, even with its full development for power,

we will have control of the river for two weeks. If we did not include power development at Wheeler we would have control of the river for three weeks. Such control would also result in advantage to navigation in the river below. Even with this control provided by Wilson and Wheeler there remains those great fluctuations between winter and summer and between wet years and dry years. By the construction of Norris Dam we can control this great fluctuation so as to approximately double the prime power available at Wilson Dam.

If high dams were constructed at various points in the river for navigation purposes and no means for generating electricity provided you would entirely waste the water power resource. If the program for building 32 low lift dams in the river had been carried out it would have meant a waste of the water power resource.

In the operation of a reservoir storage dam such as Norris there are a great many factors that must be considered. The primary one would be navigation and as a phase of navigation, flood control. Also the sanitary condition of the river below the dam would have to be considered. The management of the storage there so as to best meet all of these conditions as well as the most effective use of the water for power purposes are all necessary. The water should be stored in that reservoir during times when the water is high enough in the river below so that no more is needed for navigation or power and especially when it is desirable to store it for flood control purposes. When the water is low in the river below, water could be released from Norris; the same water would pass down the river and whenever it came to one of the dams further down it could be used to generate power so that it would be adding to the prime power possibilities all the way down the stream. If an

attempt was made to work out in advance conditions and stipulations in a license that would be adequate to assure proper operation by a private company, the only conditions that could accomplish such a result would be for the private company to turn over the management and control of the operation of the reservoir to the government. Anything short of that would fail in its purpose. These same conditions apply to any other dams upon the tributaries of the Tennessee.

If the Authority attempted to sell power at its disposal at the generating plant we would have only one, or at most two, customers. We know from experience that they would buy our power only at dump power rates unless they have used up all other available power. The chance of getting a reasonable price for that power with only one customer would be very small. In speaking of one customer I mean a power company. In the course of time, industries might locate at the generating plant and buy power within two or three miles of the plant. That would limit us to industries that could and would come to the plant. The only way of getting power to the market is by transmitting it. That means that in some way transmission lines must be acquired or used. I think if the Authority could be assured of transmission lines at a reasonable cost it might be very glad not to build any lines. There is no way of determining when, if ever, additional generating facilities will be placed in any of the dams. We believe that there will be very great increases in the use of power and that we are using good judgment in building these dams now. There is no certainty as to when any additional dams will be constructed or that any other dams aside from the main river dams that are necessary in order to carry out the navigation program will ever be constructed. There is

no certainty as to how much of the power available will be needed in government operations. At the present time about half of the total power generated by the Tennessee Valley Authority is being used in government operations. It is being used in the construction of dams, for the operation of Nitrate Plant No. 2, for the operation of the locks and for experimental purposes. It can be used in the manufacture of munitions.

In my testimony before the House Committee in the statement that of the $200,000,000 included in our estimates, one-third was for navigation and flood control, I merely took roughly the amount which would represent the cost of the alternative low lift dams. I thought that if I limited myself to that extent I would be within reasonable bounds. With high dams we will get a much more efficient navigation. The ⅓ was a rough estimate of the amount that Congress had committed itself to pay to private companies if they would build high dams instead of low ones. There is no dam under construction by the Tennessee Valley Authority that is not directly related to navigation. The Board of Directors does not intend to enter into any program that is purely a power program without connection with the other purposes of the Authority.

Upon **Redirect Examination** the Witness Testified as Follows:

In stating that there is no power development under consideration not relating to navigation, I intended to use the word "related" in the sense that I used it in direct examination. I meant it as I have defined "accessory." I did not mean that power development has any physical function with relation to navigation.

AL C. GARBER,

Called as a Witness on Behalf of the Plaintiffs, Testified as Follows:

I am one of the plaintiffs in this case and am chairman of the Stockholders Protective Committee of the Alabama Power Company. That Committee is directing the prosecution of this suit. About eighteen hundred holders of preferred stock of the Alabama Power Company, holding about forty thousand shares have associated themselves with that Committee in this connection, and have authorized their names to be brought in if it should be desired by the Court or deemed advisable by the Committee in the prosecution of the suit.

Upon **cross-examination** the witness testified as follows:

I think there are about three hundred fifty thousand shares of preferred stock of the Alabama Power Company outstanding. The plaintiffs of record in this case own a little over a thousand shares. The others of the eighteen hundred stockholders authorized me to join their names in a suit if that was desired, by a form letter to that effect. All of them have not contributed to the expense of the litigation.

All of the stockholders whom I have listed as being interested in this matter have not contributed to the cost of the litigation. I have a list of all of the parties who have contributed. That includes only preferred stockholders. The only people I have contacted are preferred stockholders. No one from any other source has made any contribution.

I am referring to my own committee. I don't mean to say that the plaintiffs in the Coal and Ice cases have not

been assisting in this matter. I was referring only to contributions from this list.

I am sure that the Coal and Ice Companies are contributing to the cost of this suit. It is not handled through me. I don't know what proportion of the cost of this case is being borne by the preferred stockholders.

J. H. PERKINS,

Called as a Witness on Behalf of the Plaintiffs, Testified as Follows:

I am a consulting engineer and have been engaged in that work for about thirty-six years. During the first two years of my experience I was engaged in designing and construction with manufacturing companies and utilities. During the next twelve years I was engaged as engineer, superintendent and manager of electric lighting, gas and street railway utility companies. For the next nine years my experience was generally in supervision of operation, construction, rates and taxes of a group of utility companies. For the last fifteen years I have been an independent engineer, specializing in appraisals and rate work before Courts and Commissions. I have familiarized myself with the properties of the Alabama Power Company covered by the contract of January 4, 1934. At the request of the plaintiffs I have inspected certain of the properties that have been delivered to the Tennessee Valley Authority under the terms of the contract of January 4, 1934. I made a trip, leaving Birmingham on January 20, and returning on January 23. On that trip I inspected the properties in Mississippi that are described in Exhibit A to the contract of January 4. Practically all of the power distributed to these properties in Mississippi is furnished by the Alabama Power Company over transmission lines.

There are apparently two main transmission lines over which that current is supplied. One of those lines, which is described in Exhibit A to the contract of January 4, 1934, is connected with the line of the Alabama Power Company, running from Sheffield West across the state line about five miles East of Iuka. Okolona is the receiving point for current furnished by the Power Company to the Tennessee Valley Authority for distribution in the Mississippi territory. Another main feed by the Alabama Power Company flows almost due West from the Gorgas plant of the Alabama Power Company to West Point, Mississippi, crossing the state line at a point almost due East and West between Gorgas and West Point. From that point the main line is North from West Point to Okolona. The portion of that main line acquired by the Tennessee Valley Authority is from Okolona North to Tupelo. So far as service through that line is concerned, it originates at Gorgas or the network of the Alabama Power Company in Alabama, proceeds to the Mississippi state line, then over the line of the Mississippi Power Company, then into the property transferred to the Tennessee Valley Authority under the contract of January 4, 1934. The Wilson Dam-Iuka line, proceeds over the present line of the Alabama Power Company to the state line and thence into the line conveyed to the Tennessee Valley Authority under the contract of January 4, 1934. It is only the latter line that is included in the items proposed to be transferred by the Alabama Power Company under the contract of January 4, 1934. The Gorgas-Mississippi State line is not included in the properties to be transferred.

There is an isolated operation that belonged to the Mississippi Power Company and was purchased by the Tennessee Valley Authority in and around Blue Mountain, Mississippi. That is an oil engine plant. I understand

there is also one at Myrtle. There are also steam plants at Tupelo and Corinth that were purchased by the Tennessee Valley Authority. Practically all of the load of the North Mississippi properties referred to would be lost by the Alabama Power Company under the contract of January 4, 1934.

The Mississippi Power Company property taken over by the Tennessee Valley Authority involves ten counties; a population of 184,640 people, and 6500 customers. That does not include customers added by the Tennessee Valley Authority since the acquisition of the properties.

I inspected the steam plants at Corinth and at Tupelo and the oil engine plant at Blue Mountain. The power plant at Tupelo, consisting of two steam turbines with boiler equipment, the total turbine capacity being rated as 4,375 KVA, had one attendant in charge. Fires were kindled and apparently ready to operate, the boilers were not lighted. The plant, in my mind, is ready to operate as a standby plant. The steam plant at Corinth was equipped with three generators of approximately 2100 KVA with the necessary boilers. The boilers had evidently been fired recently because they were hot when I was in the plant, and coal was scattered around in front of the boilers. The turbines were not in operation. At the Blue Mountain plant there was one 75 H. P. Diesel engine and one 120 H. P. Diesel engine. These engines were both operating at the time of my visit.

The map indicates that the system served by the Blue Mountain plant is an isolated system connected with the transmission line, serving only Blue Mountain, Myrtle, Hickory Flat and Potts Camp.

I inspected the distribution systems at Fulton, Shannon, Baldwyn, Pontotoc, Booneville and Blue Mountain. They all seemed to be in good order and of some considerable

extent. I did not notice any lines under construction. From my observation I would say that the functions are being performed in this territory by the Tennessee Valley Authority in substantially the same manner as they would be performed by a utility serving in the general area.

I obtained the original bills immediately prior to and after the transfer of the property from the Mississippi Power Company to the Tennessee Valley Authority. I hand you the successive bills to an individual citizen from the Mississippi Power Company and the next bill from the Tennessee Valley Authority. (At this point the following exhibits were identified and offered in evidence: Plaintiffs' Exhibit 33A, bill from Mississippi Power Company for service from May 1 to June 1, 1934; 33B, bill for Tennessee Valley Authority service from June 1 to June 29, 1934; 33C, bill for Tennessee Valley Authority service from June 30 to July 25, 1934.) This particular customer was a resident of Booneville, Mississippi.

Upon the trip I observed the ordinary trucks and other construction and maintenance equipment. All of the power stations had in connection with them, evidence of construction equipment and maintenance equipment.

ROBERT ISHAM RANDOLPH,

Called as a Witness on Behalf of the Plaintiffs, Testified as Follows:

I am a civil engineer. My engineering experience began in 1901 as a computer for the Expert Advisory Commission, Sanitary District of Chicago. After that I was successively employed as a leveller for an irrigation survey in Hawaii, as a rod man, computer, level man and transit man for the Sanitary District of Chicago. For two years I was a student in the College of Civil Engineering at Cornell

University. I worked on the construction of the hydro-electric plant at Lockport. I was Secretary of the internal Improvement Commission of the State of Illinois. I was Secretary of the Rivers & Lakes Commission of Illinois, directing river surveys, stream gauging, plans for reclamation, investigations of pollutions and of the water resources of Illinois. For three years I was a partner in the firm of Isham Randolph & Company, Consulting Engineers. We were consulting engineers for the Blue River Drainage District and Mingo Drainage District. After the World War I resumed practice of engineering on land drainage and reclamation and general engineering.

I was interested and active in the legislation providing for the surveys of the Tennessee River. I visited the Wilson Dam during its construction, have studied the report of the Corps of Engineers contained in House Document No. 328, 71st Congress, 2nd Session, and I have visited the site of Wheeler and Norris Dams. For the past four years I have been President of the Mississippi Valley Association.

The slope of the Tennessee River is so great that improvement by dredging is not possible. Any improvement on the Tennessee for navigation would involve the canalization of the stream by the construction of dams and locks. The Corps of Engineers in House Document No. 328, which was enacted into law by the Rivers & Harbors Act of 1930, recommended a series of thirty-two low dams which provided a nine foot project depth from the mouth of the River to Knoxville. In order to maintain navigation in such a channel it is only necessary to have sufficient water to provide for lockage, leakage and evaporation. The low water flow of the stream is sufficient for those purposes without any head storage. For the operation of the locks all that is required is enough water to empty and fill the locks for the maximum number of lockages, which is ap-

proximately a quarter of the low water flow of the stream. The low type of dam would be designed with a navigable pass. At extreme floods the locks would probably be drowned out but since the movable wickets would be lowered, that would be no impediment to navigation. The only effect would be to make landings difficult and possibly drown out the fixed landings at various river terminals. The extent of impediment to navigation from flood is from one to two percent of the time.

The Tennessee is a principal tributary of the Mississippi and should be integrated with the 9 foot channel system on the Mississippi. The logical sequence of development would be to improve the river from its confluence with the Ohio upstream to Knoxville. The channel project depth in the Ohio is 9 feet. The equipment designed for the 9 foot channel can operate on lesser draft, but it cannot operate fully loaded. In a logical sequence of development you would start at the mouth and carry that 9 foot channel upstream progressively, or you might do it simultaneously from a start at the mouth. After the construction of Pickwick, Wheeler and Norris Dams between Pickwick and the mouth there would be stretches that do not have the project depth. North of the Wheeler pool there is a minimum depth of about a foot and a half so that it is a non-navigable section of the stream.

The estimated cost of the low dam project with the locks 110 feet by 600 feet is approximately $75,000,000. That scheme of improvement would accomplish 9 foot minimum depth navigation from the mouth of the Tennessee to Knoxville, without head water control. The alternative project of providing a 9 foot channel with fewer and higher dams was examined and reported in House Document No. 328, and consists of a dam at Aurora running forty-three miles above the mouth with a lock of fifty feet

lift. The next dam in that project is at Pickwick Landing, 206 miles above the mouth; then the existing dam at Wilson Dam No. 1 and Dam No. 2, which are a part of that system. Dam No. 3, according to the design of the Army Engineers, is the next in the series, with a lift of 49.9 feet. That is the present location of Wheeler Dam which is being built with a lift of 50 feet. The next dam is at Guntersville, 354 miles above the mouth. The existing dam at Hales Bar, a dam at Chickamauga, 472 miles above the mouth, one at White Creek, 543 miles above the mouth, and at Coulter Shoals, 605 miles above the mouth, complete the system. Provision was made in the report that where private interests were willing to build dams for the development of power, the United States Government should contribute the cost of the low dams which would be made unnecessary by the high dams. In such an improvement no head water storage would be necessary in order to maintain a 9 foot channel. The only water required to maintain navigation is the amount needed to provide for lockage, leakage and evaporation from the pools, and the low water of the stream is sufficient for that.

The requirements of power for the operation of locks depends upon the number of times the locks are operated. In the estimate furnished by the Tennessee Valley Authority in their answer to Interrogatory No. 2, 150,000 KWH is estimated as necessary for operation of locks at Wheeler Dam. At Wilson Dam there are two 150 H. P. motors equipped with air compressors. One of these motors is used as a standby for the other. The maximum power required is simply enough to run one 150 H. P. motor. It is quite usual where the main source of power is hydroelectric generated at the lock site, to have either a gasoline or Diesel engine for the operation of locks. So far as the actual operation of the locks is concerned, it is easily prac-

ticable to supply the necessary power by a Diesel engine or by a small hydro equipment in the dam without any substantial generators provided.

With the high dam structures in the main stream there would be times when all of the dams would approach submergence near the head in case of flood. There are no flood stages that would drown out the locks. There would be cases of surface velocity that would affect navigation. Floods would have no more effect on navigation in the high dam plan than they would in the low dam plan. I think the advantage lies with the low dam type because of the navigable pass in the dam. The estimated cost of improvement for navigation only with the high dams, with locks 110 by 600 feet, is $192,578,557.00.

Comparing the two methods of improvement with respect to their effect on the operation of towboats and barges in the low dam improvement, it is necessary to go through thirty-three locks, including the double lift lock at Wilson. The 9 foot channel in the low dam improvement is pretty well defined within the natural banks of the stream and there is ample navigable width and depth with the low dam improvement. With the high dam improvement the pools are wider. Navigation conditions would not be as good in those wide pools as in the narrower river. Wind and wave action in the wide pools is considerable. In the high dam pools it would be necessary to have channel markers to define the channel. There is some advantage in the greater depth of the deep pools, but it is not material. The low dam improvement affords quite as good navigation facilities as the high dam improvement. The difference in time of lockage is in favor of the fewer dams. During the intermediate stages of the river it would be possible to use the navigable pass in all of the low dams and that would occur twenty-five to thirty per cent of the time

throughout the year. In my opinion, so far as navigation is concerned, there is no substantial advantage in the high dam type. The difference in cost between the two would not be justified by any substantial advantage of the high dam type over the low dam type.

The integrated plan for power development considered in House Document No. 328 is based upon the existing installation at Wilson Dam which consists of four 25,000 KVA generators and four 32,000 KVA generators and the provisions for the installation of ten additional generators. The construction of the dam at Dam No. 3, which is the Wheeler Site, with the provision for eight generators with the immediate installation of only one 45,000 KVA generator with implacements for seven others. At Norris Dam on a visit to the site I saw the foundations of the power house, two penstocks in place and two 50,000 KVA generators were being installed. The plans show that there are to be six implacements at Pickwick Dam. From the standpoint of power development the logical and orderly development would be the construction of Norris Dam to augment the low water flow at Wilson and at all of the run-off river plants, then the building of Wheeler Dam to further augment the flow and the construction of a dam at the Pickwick Site as a re-regulating dam. That would be followed by the subsequent construction of all of the main river dams.

The Pickwick, Wilson and Wheeler pools will provide nine foot navigation in those stretches, but will not provide navigable depth below Pickwick nor navigable depth above the head of the Wheeler pool. The estimates of potential tonnage in House Document No. 328 show a total of 17,000,000 tons upon the river by 1950. It is not possible to provide a nine foot channel in the Tennessee River below the site of Pickwick Dam by releases from the Norris reservoir;

nor is it possible to provide such a channel throughout the year between Knoxville and the head of the Wheeler Dam pool by such releases. Releases from Norris would increase the depth by 1½ or 1.7 feet. Increasing the depth from a foot to approximately three feet only serves to make a non-navigable stream a little less non-navigable. The Norris Dam storage has practically no value in the Tennessee below the Clinch River. Releases from Norris would raise the low water flow in the Mississippi below Cairo approximately a foot. That would not give an increase of a foot in depth, because in the Mississippi the bars rise with a rise in stage, and the effective increase in depth is only about four-tenths of the increase in stage. The Mississippi has a nine foot low water depth below the mouth of the Ohio, which is maintained by dredging. This increase would have very little value. The Norris storage would be of no material benefit to navigation on the Tennessee during the periods of flood, and its effect on flood stages on the lower Mississippi would be so small that it could not be measured.

Norris Dam, as being constructed, is a complete and effective barrier to navigation upon the Clinch River above its site. No provision is being made for a barge lift or lock, and there is no place in the plan where a barge lift or lock could be installed.

In House Document No. 328, the total potential horse power at all of the dams contemplated in that study was some 4,000,000 horse power, evenly divided between head water and main river dams. This includes every dam in the total of 149 considered in House Document No. 328. The total estimated cost in the same document for Aurora Dam, Pickwick Landing, Wheeler, Guntersville, Chickamauga, White Creek, Coulter Shoals and Norris Dam is $273,914,720. The existing program of construction in

order to procure an integrated nine foot channel for navigation would have to be supplemented by either a high dam at Aurora, or the low dams reported in the low dam plan. It would have to be further supplemented by the canalization of the river above the Wheeler Dam pool, either by the construction of low dams, or by the construction of high dams at Guntersville, Chickamauga, White Creek and Coulter Shoals. The plans of the Corps of Engineers provide for a barge lift in the Norris Dam to carry navigation upstream and for three locks in the upper end of the Norris Dam pool. In House Document No. 328, the potential tonnage upon the Clinch River above Norris Dam is estimated at approximately 2,000,000 tons annually. I would say that there is no feasible method of handling this traffic above Norris Dam as now being constructed. Coal is one of the principal commodities included in that traffic. There is a material degradation of coal in handling it by mechanical means over a dam, and the cost of handling it would be so great that it would not be moved. It is not practicable to add a barge lift or locks to the Norris Dam, according to the present plan of construction.

In the Pickwick pool the approximate cost of the alternative low dams as estimated in House Document No. 328 is $8,676,000. As estimated by the Tennessee Valley Authority it is $9,060,000. It is estimated by the Tennessee Valley Authority that the cost of the high dam without power house and machinery would be $21,929,000, leaving a difference in cost between the two of $12,869,000. At 3½% interest and 1% depreciation, the annual carrying charges on that difference would be $579,105. The cost would have to be carried 15 years to equal the cost of the low dams. That annual loss would accrue and continue unless the Tennessee Valley Authority should be

permitted to install hydroelectric units and find a sale for that power that would overcome that five hundred thousand odd dollars within 15 years. The same situation exists so far as Aurora Dam is concerned, but the interval of time is a little different; the interval there is 13½ years instead of 15.

It is practicable to arrive at an allocation of cost between navigation and power in the case of a dam serving both purposes, because the work directly chargeable to navigation can be determined, and the cost of work directly chargeable to power can be determined. By a division of joint work and the proper allocation of proportionate costs, it is possible to allocate the cost. I have applied that formula on the projects on the Tennessee River using the plan in House Document No. 328 as a basis. On Aurora Dam, the amount chargeable to navigation is $9,590,000; power, $42,269,048, total $51,859,048. That includes the installation of electric machinery. Using the estimates of the Tennessee Valley Authority on Pickwick, the amount chargeable to navigation is $8,400,000; to power $33,145,000. The navigation figure is taken from the Tennessee Valley Authority estimates, but I have charged in the power plant as estimated in House Document No. 328. I am assuming the installation of a power plant as recommended in that document. The allocation at Wheeler Dam for navigation is $9,125,000; for power, $39,960,000, based upon House Document No. 328. At Guntersville, the allocation is $7,870,000 for navigation; $25,708,530 for power. At Chickamauga $9,530,000 is allocated for navigation; $24,708,530 for power. At White Creek $10,070,000 is allocated for navigation; $20,380,325 for power. Coulter Shoals has $9,400,000 for navigation; $10,412,310 for power. No part of the cost of Norris Dam would properly be chargeable to navigation.

Under the rules and regulations of the Federal Power Commission and the Corps of Engineers, no license would be issued for the construction of dams on the Tennessee River unless all uses of the water impounded by such construction were reserved for navigation by proper reservations. To my knowledge, no detriment has been suffered to navigation resulting from the construction of any dam under such license. The control is always reserved for the Corps of Engineers. I know that it is proper practice under the Federal Water Power Act to make provision in such licenses to provide that downstream licensees shall, in the event of improvement resulting from construction upstream, make equitable payment for the increase in power resulting to the downstream proprietor. From the standpoint of navigation, there is no necessity whatever for an integration of the ownership and proprietary operations of hydroelectric equipment on the Tennessee River. (Here plaintiffs offered in evidence the rules and regulations of the Federal Power Commission. Since these are readily available in printed form, they are not included in this record.)

Upon **Cross-Examination** the Witness Testified as Follows:

The quotation appearing in the Birmingham Age-Herald on Saturday, January 26 as follows: "Development of navigation being carried out in the Tennessee Valley will ultimately benefit that region immensely," is a substantially correct quotation of my remarks. The Mississippi Valley Association is a volunteer organization devoted to the development of an integrated nine foot water way system for the entire Mississippi Valley. The Association strongly recommends related undertakings in the promotion and development of navigation. In general, I agree

with the following resolution which was adopted by the Mississippi Valley Association in St. Louis on November 27-28, 1933:

> "We recommend to the government the great value of source stream control on the Missouri, the Kansas, the Arkansas, the Ohio, the Upper Mississippi, the Red and other tributaries. Essential to inland navigation and to the agricultural and industrial welfare of the Mississippi River System is the control, conservation and utilization for beneficial purposes of the now wasted and destructive flood waters of the Valley, including the checking of flood formation and soil erosion, the restoration of the ground water levels, the development of water power, the reforestation of denuded lands, the regulation of stream flow and the protection and preservation of wild life."

I also agree with the following quotation from the same document:

> "Again we assert our position that the main lines north and south on the Mississippi from Minneapolis to New Orleans, and connecting waters from the upper reaches of the Ohio and its tributaries, such as the Great Kanawha, the Tennessee and the Cumberland, and up the Missouri to Sioux City, and so far beyond, northwest, as a satisfactory channel can be secured, and the Intra-Coastal Canal from Corpus Christi eastward through New Orleans into the Alabama, Coosa, and Warrior, the Arkansas and Red Rivers, are vital parts and main arteries of the Inland Waterway System and, like the Mississippi-Illinois-Lake Michigan Waterway, should be improved to dependable usability with the least practicable delay."

Our Association was active in support of the appropriations for flood control and inland waterways, and we have

consistently advocated the great value of the control of destructive flood waters. The following is a correct quotation from previous remarks made by me.

"The national necessity has speeded up the whole river and harbor program and caused the careful study and investigation of the conservation and use of all of our water resources. For all of this we are indebted to the leadership of Franklin D. Roosevelt and we look for the consummation of this great program of public improvement under his wise administration."

The following is also a correct quotation from remarks previously made by me:

"The Arkansas River deserves our continued support and our earnest efforts to secure the adoption of a well designed project for 9-foot navigation with the development and distribution of the incidental water power and the control of destructive floods."

The following is also a correct quotation from remarks previously made by me:

"The necessity for flood control in the Ohio River valley is great and we favor the development of all water storage possibilities in the Ohio River and its tributaries."

The following is also a correct quotation from remarks previously made by me:

"The Kingdom of the Tennessee may need no further promotion from us. However, we shall watch its development with sympathetic interest."

It is true that the Mississippi Valley Association adopted a resolution containing the following language last November:

"'Source control, and the use for all valuable purposes, in place of waste in devastating floods, of the surplus water resources of the mid-continent region, can be made to bring within the reach of all the people many benefits, including the checking of soil erosion, restoration of the ground water supply, control of flood formation at the source, reforestation on lands not desired for agriculture, a favorable effect on the moisture distribution phase of climate, reduced cost of protecting lowland areas against overflow, improved and lower cost transportation, the clarification of streams, irrigation of dry lands, power development, and reduced cost of reclaiming excessively wet areas.'"

Specifically, I do not subscribe to all of that. Source stream control for flood prevention is an illusory hope for the Mississippi Valley. The program expressed there is very expansive. It is really a compilation of the report of the Mississippi Valley Committee.

I think there were about six members of the Mississippi Valley Committee. They are all very high calibre men. The chief of engineers is represented by Major Edgerton.

The matter of flood control has been the sole responsibility of the Mississippi River Commission since it was created. The Chairman of that Commission is a Brigadier-General of the United States Army. The Act provided that there would be three members from civil life, two of whom should be engineers. I think there is only one civil engineer on that Committee now.

The best way to develop all of the water storage possibilities in the Tennessee is to build the 149 dams considered in House Document No. 328, including storage dams and head water dams. If they were designed for storage they would be as high as we could get them, the higher the dam the greater the storage. High dams in the main stream

on the Tennessee would rob the river of its natural flood storage. If you have surcharge storage in such dams, you still have the loss of natural storage. The project outlined in House Document No. 328 provides only 83% of the natural storage for normal floods. You would not rob the river of its natural storage just to stake it off above a high dam if your sole purpose was storage of flood waters. It takes several days for water to come down the Tennessee and Ohio into the Mississippi. You can't predict a flood crest accurately at Cairo, but you do know with a rising river with heavy precipitation upstream that you are going to get a higher stage. You can know that about a week in advance. If it takes more than a week for waters ordinarily to flow down from the tributaries of the Tennessee to Cairo, you can get effective flood control systems on the Ohio without high dams in the main stream of the Tennessee, because you have big flood storage in the Tennessee above Johnsonville. Johnsonville is a few miles upstream. You will get just as much help as you will have with the high dams. The records of floods show greater discharges upstream than they do at the mouth, and that greater discharge is going into the natural flow of the stream between Florence and Johnsonville. Undoubtedly a million and a half acre feet of storage at Aurora Landing would help with the flood just below that. I stated that the effect of storage in the Tennessee was so small that you couldn't measure it below Cairo, and the Mississippi River Commission so finds in its report. I am familiar with the investigations that have recently been made by the Mississippi River Commission; that is, with the supplemental report of February, 1930. I do not know of any more recent study by that Commission. To the extent that you can hold back flood waters upon the Tennessee and other main tributaries of the Mississippi, you would ac-

complish results in alleviating and controlling flood waters on the Mississippi, but in the Tennessee you have greater storage space in the river without the dams. If you build any dams in the river at all, the only way you can compensate for the loss of storage space is to provide storage capacity above these dams equal to or in excess of the natural storage. Low dams do not displace natural storage, since they are drowned out by floods. The water just flows right on. When you have a large number of low dams, you have that many more places to catch silt. A high dam which is designed to aid navigation, control flood waters, aid in the national defense and produce power incidental to its operations is a multiple purpose dam, but I don't know of any such dam. Several of the purposes are incompatible. If you want to accomplish all of those purposes you must control your dam and your waters in such a way as to accomplish at the particular time which ever one of the purposes is primary to the concern or person operating the dam. One of the purposes must be paramount. If you had water enough for navigation, you could utilize surplus water to accomplish any other particular purpose you wanted.

With the low movable dams when the wickets are down, the water is just running through at an increased velocity. That requires more power going upstream. You do not have to break tow many times with a lock 110 feet by 600 feet. You can get a 10,000 ton tow through there. For the greater part of the year you would have to break tow on the low dams, and you would have to break as many more times as you have more low dams than you have high dams. The movable dams are more difficult and expensive to operate. The cost of getting a tow through one high dam as compared with the cost of getting it through one low dam would be measured by the time in

going through the locks. With respect to Wheeler Dam, it would take approximately one-third as long to get through the high one as it would to get through four low dams. It is proper practice for the government to charge interest against public navigation works. Tolls are not charged to repay that interest charge, and I do not think that such tolls should be charged. When you have a narrow navigable stream, you must mark the channel at least as precisely as when you have a wider navigable pool.

The releases from Norris Dam would increase the depth of the river between Pickwick and the mouth about two feet. That would be a substantial improvement in the navigability of those waters, but it would not produce the project depth. There is traffic upon the lower reaches of the river at the present time. There are 4½ feet in that part of the river now and two feet more would give 6½ feet and would be helpful. If a program of construction contributes additional depth over the low stretches and is gradually building up a system to a point where you have the minimum nine foot channel at some future date, that is a good result. I have not expressed any disapproval of the construction of Wheeler Dam. After Aurora, the next most logical development upon the river from the standpoint of navigation is Pickwick Landing Dam. Pickwick and Aurora are necessary in obtaining nine foot depth to the mouth. The next dam in logical sequence would be Wheeler.

It would be possible, but not feasible, to utilize a conveyor at Norris Dam to convey the commodities over the dam from barge to barge. That system would stop the coal movement. I have seen a number of such conveyors operating and they operate all right. In the plans for Norris Dam, there are 1,400,000 acre feet for flood storage.

In allocating costs at the various dams, I took the figures

from House Document No. 328 and assumed complete installation of power. The Corps of Engineers were building at the Wheeler site a dam with a lift of 45.9 feet and the Tennessee Valley Authority is building a 50 foot dam there. I allocated to navigation on the Wheeler project the cost of the locks and the proportionate share of the cost of the joint works. The dam is common to both power and navigation. You might divide such costs fifty-fifty. The cost of navigation in a joint project should not be greater than the cost of a project of equal efficiency built solely for navigation. I am assuming the point of equal efficiency. The cost of power in a joint undertaking should be less than in a separate power development, and the cost of the combined project should be less than the sum of the cost of the separate projects. I developed the formula for allocation on that basis. On the Wheeler project, the figure for the power house complete with machinery installed is $26,860,220. I have not made any calculations of improvements which will result to navigation from the building of these high dams. I do know that the high pool levels will back water up the tributaries and improve navigation upon them. With the low dam plan, you will get seasonal variations. You will get less fluctuation with the high dams.

Upon **Redirect Examination**, the Witness Testified as Follows:

Chart No. 21 taken from Appendix B, Part 2 of House Document No. 328 shows a longitudinal section of the river and blocked out in blue is placed the low flood surface under natural conditions, which is labeled, "Flood Storage Displaced by Reservoir," that is, dead water. In blue above the normal pool level with the legend "Surcharge Storage Equal to Flood Storage Displaced by Reservoir," is the flood surface as it would be with the

dam. According to House Document No. 328, this surcharge storage is only 83% of the total natural flood storage displaced by the reservoir.

EZRA B. WHITMAN,

Called as Witness on Behalf of the Plaintiffs, Testified as follows:

I am a consulting engineer, specializing in the construction and design of utility work, valuation and rate regulations. I graduated from Cornell University with the degree of Civil Engineering. In 1902, I became a member of the firm of Williams & Whitman of New York City, engaged principally in water supply and drainage work. From 1906 to 1911, I was division engineer of the Baltimore Sewage Commission. From 1911 to 1914, I was Chief Engineer and President of the Water Board of the City of Baltimore. From 1914 to 1916, I was a member of the firm of Griner & Whitman of Baltimore, consulting engineers. The principal work was the design and superintendance of construction of water supply, sewerage systems, bridges and buildings. From 1916 to 1925, I was a member of the firm of Norton, Bird and Whitman, with offices in Baltimore and Chicago, and later in New York. In 1921, I was appointed a member of the Public Service Commission of Maryland, and later was Chairman of that Commission, being connected with the Commission for about six and one-half years. I was connected with the Chicago Drainage Canal, the diversion case in the Supreme Court for the City of Chicago. A little later I was connected with the Connecticut River diversion case. I was also in the Delaware River diversion case. In the beginning of 1933, I became First Assistant to the President of the West Penn Electric Company in Pittsburgh. Later, I was ap-

pointed Chief Engineer of that Company, and held that position until the first of this year. At the present time I am not associated with any operating or holding companies. At the request of the plaintiffs, I have made a study of the electric generating capacity within transmission distance of the various assumed projects on the Tennessee River.

At this point in the proceedings the following occurred:

"Q. Mr. Johnston: Will you state what the situation is with reference to capacity in that area and market; that is, the surplus in that area?

"Mr. Fitts: May it please the Court, I think that that line of testimony is clearly objectionable, irrelevant and immaterial, first, so far as the question of whether or not there is to be a surplus or whether or not there is a surplus of power. The defendants object to that question and that line of testimony.

And here argument between counsel followed:

"The Court: About the question that we left undecided last night, it seems to me the question of competition is not important in this case. If the Congress did not confer the power on the TVA by the Act or the Act is unconstitutional, then the transaction should be set aside as ultra vires, without regard to the fact or kind of competition indulged in by it. If Congress had the power to enact the Act, and the Act is construed to confer the power on the TVA, as claimed by it, then its power was paramount to that of the Alabama Power Company, and its competition could not be complained of as being illegal by it.

"However, as the plaintiffs are insisting on the question of competition, it is more practicable to let the evidence into the record. In that event, the Court can disregard the evidence as to competition if it determines that it has nothing to do with the case. If it is determined that the evidence is material it

can consider it without the need of reopening the case, to supply the missing proof.

"For this reason, I will admit the evidence and determine its effect upon the final hearing, after the case has been argued.

"Mr. Fitts: The defendants except."

In making the study of capacity I have taken an area in circles of 200 miles radius from the different plants and then have taken all of the large companies that are in that area. Some of the companies go quite a distance beyond 200 miles, but I have taken what I consider a practicable transmission distance. I obtained the information with respect to the plants that served in the different cities within that area, and the information with respect to the generating capacity installed in each of these companies. I have taken what might be termed prime or reliable capacity of these plants. I secured from the Supplement of the "Electrical World" the KWH which were generated by each one of these companies during the year 1933; that represents actual use. I found that there was installed 5,341,389 KW of generating capacity. Upon my estimate there would be 4,000,000 of that generating capacity that might be termed reliable capacity. The total generation during the year 1933 for all of these companies was 11,998,000 KWH. From a study of the load factors of a number of the companies, I assumed a load factor of 55%. Upon that basis a generating capacity of 2,490,000 KW would be required to furnish that amount of electricity. With a firm capacity installed of 4,000,000 KW, you have an excess of 1,510,000,000 KWH, which is a little over 60% excess capacity within that territory during the year 1933, which was the last year for which figures were available. Load factor is the relation between the greatest demand during the year and the average

during the year. If your maximum load is 100 and the average use through the year is 50 you have a 50% load factor. I reduced installed capacity to prime capacity by studying the hydro plant installations. I made a study of each individual hydro plant and reached my conclusions as to the prime capacity throughout this area. I did not include the small isolated plants of 3,000 KWH or less.

(At this point there were identified and offered in evidence as plaintiffs' Exhibit No. 38 certain work sheets upon which the conclusions of the witness were based, which is omitted from this narrative.)

I have computed the increase in capacity that will result from the installations under construction and announced by the Tennessee Valley Authority. Basing my calculations on the answer to Interrogatory No. 3a, which states that 1,620,000,000 KWH of primary power can be produced at Wheeler, Wilson and Norris Dams upon a 100% load factor, I have estimated that on the 55% load factor a generating capacity of 338,000 KW would be required. With Wilson, Wheeler, Norris, Pickwick and Aurora, taking the low flow of the river secured by the answer to Interrogatory No. 105, I assumed 185,000 KW of firm capacity on a 100% load factor obtainable from Wilson, Wheeler and Norris, and the Aurora and Pickwick would add 80,000 KW of firm capacity, giving a total of 265,000 KW of firm capacity on a 100% load factor, which would generate 2,300,000,000 KWH. Using a 55% load factor, an installed generating capacity of 483,000 KW would be required. In the Alabama Public Service Commission case, it was testified by the Tennessee Valley Authority that there were 438,000,000 KWH of prime power available from the Wilson Dam and the Sheffield Steam Plant. My hypothesis with respect to the series of dams assumes the installation of hydroelectric equipment in

Pickwick, and the completion of Aurora. There will be a substantial increase in the existing prime power at Wilson as a result of the construction of Pickwick without any generating capacity, and of Wheeler and Norris with the announced generating capacity. (At this point there was identified and offered in evidence as Plaintiffs' Exhibit No. 39 extracts from the minutes of the Board of Directors under date of November 1, 1934, the substance of which was as follows: The following appears in the minutes of the Tennessee Valley Authority of November 1, 1934 with reference to the distribution of the orders for cement for the various dams: That the Board of Directors confirmed the informal acceptance of the bid of the Alpha Portland Cement Company for the contract covering the purchase of cement for the named projects, which were Wheeler project, Pickwick project, Guntersville project and Chickamauga project. That the Board also confirmed the informal acceptance of the bid of the Cumberland Cement Company for the contract covering the purchase of cement for the named projects, which were Wheeler project, Pickwick project Farner project, Murphy project and Aurora project. That the Board also confirmed the informal acceptance of the bid of the Hermitage Portland Cement Company for the contract covering the purchase of cement for the named projects, which were Wheeler project, Pickwick project, and Aurora project. That the Board also confirmed the informal acceptance of the bid of the Lehigh Portland Cement Company for the contract covering the purchase of cement for the named projects, which were Wheeler project, Pickwick project, Guntersville project, Chickamauga project and White Creek project. That the Board also confirmed the informal acceptance of the bid of the Lone Star Cement Company for the contract covering the purchase of cement for the named projects, which were

Wheeler project, Pickwick project, Guntersville project, Chickamauga project and White Creek project. That the Board also confirmed the informal acceptance of the bid of the Marquette Cement Company for the contract covering the purchase of cement for the named projects, which were Wheeler project, Pickwick project and Aurora project. That the Board also confirmed the informal acceptance of the bid of the Universal Atlas Portland Cement Company for the contract covering the purchase of cement for the named projects, which were Wheeler project, Pickwick project, Guntersville project and Chickamauga project. That the Board also confirmed the informal acceptance of the bid of the Pennsylvania Dixie Cement Company for the contract covering the purchase of cement for the named projects, which were Norris project, Wheeler project, Pickwick project, Charleston project, Farner project, Murphy project, Guntersville project, Chickamauga project, White Creek project, Holston project and French Broad project. That the Board also confirmed the informal acceptance of the bid of the Signal Mountain Cement Company for the contract covering the purchase of cement for the named projects, which were Norris project, Charleston project, Farner project, Murphy project, Chickamauga project, White Creek project and Holston project. That the Board also confirmed the informal acceptance of the bid of the Volunteer Portland Cement Company for the contract covering the purchase of cement for the named projects, which were Norris project, Charleston project, Farner project, Murphy project, White Creek project, Holston project and French Broad project. As an exhibit to said minutes there also appears a schedule showing the cost of cement to the delivery point, and the estimated number of barrels for each project. The projects there listed with the estimated number of barrels are:

Norris, Hiwassee, French Broad, Holston, Wheeler, Pickwick, Aurora, Guntersville, Chickamauga and White Creek. In my study of the increase in power I had no information as to the additional capacity to result from the dams covered by those cement allotments.

In order to dispose of that increase in power resulting from those dams, it would be necessary to go into the service areas of the existing utility companies and take the market from them.

The Aluminum Company has plants with installed capacity of 325,000 KW, and they are selling current to the utilities. I have not taken into account that capacity. I have not deducted the energy which they have sold in determining the existing demand.

I agree absolutely with the statement in the minutes of the Tennessee Valley Authority Board that transmission and distribution as distinguished from generation represent the most important part of the cost of electricity service. (The minutes referred to Plaintiffs' Exhibit 5, R., p. 540). There is a vast functional difference between generation and transmission and distribution. The engineering problems which are involved in generating electricity, particularly hydro-power, are questions of stream flow to determine what capacity to put into your generating stations, and then the selection and installation of the generating equipment which involves the construction of the dam. Those problems are entirely separate and distinct from what you have in transmission and distribution. The equipment which is used in the generation of electricity is entirely different from the equipment which is used for transmission and distribution. Your generator and turbines are rapidly moving machinery.

Energy is generated at Wilson Dam at 12,000 volts. After the current is generated and put on the bus bar at

12,000 volts, it is necessary to transform or step up that current to high voltages for long distances, in some cases as high as 250,000 volts. For shorter distances, it may be done as low as 44,000 volts. Usually, primary transmission is around 110,000, 150,000 or 220,000 volts. This transformation is brought about, not by any moving machinery, but by transformers composed of wire coils and iron cores, with no moving parts. It is an entirely different thing to handle current at 12,000 volts or at 110,000, or at 150,000 volts. You cannot generate current at the higher voltages because the machinery insulation will not stand it.

When your current is transmitted to your load center, you have what is known as a substation, where that current is again stepped down, usually to voltages of from 2,300 to 6,000 volts. In order to get the current to the individual consumer, it is again stepped down by what they call line transformers. There may be from one to five or six customers who will be served by each transformer. In the distribution, you also have the service connection. Usually the householders pay for their own house wiring.

In the classification of accounts, the function of generation, transmission and distribution are distinguished, and the accepted standard of classification requires the separation of accounts as between them. The accounts fairly reflect the variety of the operations. (At this point there was identified and offered in evidence as Plaintiffs' Exhibit No. 40, a typical account classification, which is omitted from this narrative.)

Upon **Cross-Examination** the Witness Testified as Follows:

In determining the area to be covered by my studies,

I took an area within a two hundred mile radius from each plant. I assumed that power was to be generated at Aurora. I know of no plans that include any generating capacity there. I also assumed that installations would be made and power would be generated at Pickwick, although I know that according to the present plans, there are to be no installations at Pickwick. I also assumed that eight generators would be installed at Wheeler, although I know that only one unit is to be installed there at the present time. In the study I included the Alabama Power Company, the Alabama Utilities and the Birmingham Electric Company in Alabama; the Mississippi Power Company, and the Mississippi Power and Light Company in Mississippi; the Louisiana Power and Light Company in Louisiana, the Arkansas Power and Light Company in Arkansas; the Union Electric Light and Power Company in Missouri; the Laclede Power and Light Company, the Central Illinois Light Company, the Central Illinois Public Service Company and the City of Springfield in Illinois; the Indiana Power and Light Company, the Public Service Company of Indiana, and the Southern Indiana Gas and Electric Company in Indiana; the Kentucky Utilities Company, the Louisville Gas and Electric Company, the Kentucky-Tennessee Light and Power Company in Kentucky; the Union Gas and Electric Company and the Ohio-Edison-Springfield Company in Ohio; the West Virginia Power Company and the Appalachian Electric Power Company in West Virginia; the Carolina Power and Light Company, and the Duke Power Company in North Carolina; the Tennessee Electric Power Company, the Memphis Power and Light Company, the West Tennessee Power and Light Company, and the Eastern Tennessee Power and Light Company in Tennessee; the South Carolina Power Company, and the Broad River Power Company in

South Carolina; and the Georgia Power Company in Georgia, a total of 33 companies. I do not know how many of these companies are members of the Commonwealth and Southern system. The Alabama Power Company, Georgia Power Company, Tennessee Electric Power Company and Mississippi Power Company are. I do not know how many of those companies are members of the Electric Bond and Share Corporation. So far as I recall, only the City Water Light and Power Company in Springfield is a municipal utility. I believe that with the exception of a few small towns which are municipally operated, every company operating within a radius of one hundred miles of Wilson Dam is a member of the Commonwealth and Southern Corporation.

It is true that in considering market demand, it is practically impossible to consider it apart from the subject of rates or prospective rates. Where you have lower prices there is more consumption. The year 1929 was the all-time high in the electric utility field. From my general knowledge that there is always a surplus of capacity over demand, looking toward an increase in the future, I feel sure that there was a surplus in 1929. The curve was steadily downward from 1929 until the beginning of 1933, and then there was a very sharp increase. I would say that 1932 or 1933 was the lowest point in consumption in recent years. After the bank holiday in 1933, there began to be a pick-up to a point where consumption was not much below July, 1929. There was a falling off from July of 1933 to the end of the year. This year there is an increase of about 3% over what there was last year. 1934 is better than 1933. I computed this entire study upon the basis of 1933, which was about 12% lower than the highest year. If we went back to 1929 that would take up 12% of that 60% surplus. (At this point a chart identified as "Plate No. 2,

Depression and Recovery Cycle in Electric Production, Energy Generated in Valley Group for Months Compared, 1927 to 1934, inclusive, Series U. S. G. S. Report'' was shown to the witness). That chart shows a peak about the end of 1929 and a practically continuous falling off until the end of 1932, with an increase thereafter so that you are now back to about where you were in 1931, or 1928. (At this point the chart was offered in evidence as Defendants' Exhibit No. 1, which is omitted from this narrative.)

Referring to the graph which was later introduced in evidence as Defendants' Exhibit No. 99 during the testimony of Edward Falck, I would say that that curve represents generally the results of my study but I would call it an ideal curve. For instance, from 1927 to 1932, there is practically no increase, while this curve shows an increase of over 2,000,000,000. This curve is the kind which very frequently leads engineers to greatly overestimate what is going to happen 15 or 50 years in the future. By using a curve of that kind, without taking into account the change of economic conditions, you could be tremendously off in 1952.

The figure of 4,000,000 KW was based upon a dry year. In each case I took the dry year. Over the whole territory I have made a total deduction for obsolete steam equipment of 350,000 KW. I wouldn't say that there is in this area a considerable portion of obsolete equipment. I believe that you will get a much more rapid growth in 1935 than in previous years; that you are going to have from now on a more rapid growth, and that consumption might increase from 10 to 12% a year or even more than that. The average annual growth in the past 10 years has been 5.6%. I think the growth will be greater because I think that the government is advertising the use of electricity.

I think the private companies are going to get the advantage of making the country electrically-minded. The present administration has done quite a bit toward reaching that result—far more than the private utilities could have done, because they could never have gotten the publicity and the widespread advertisement that the government has gotten out of this program. I don't know whether in 1929 any company in this area exceeded 60% of prime as compared to installed capacity; I couldn't say because I don't have the figures.

Upon **Redirect Examination** the Witness Testified as Follows:

At a hydro-generating plant you usually have a superintendent or chief engineer. In the plant itself you would have from four to six men on a shift. The maintenance work would be done during the day time, so that in an average plant, you would probably have 25 to 30 men, depending upon the size of the plant and the number of units there were in it. In a steam plant you would have a great many more than you have in a hydro plant. Distribution is a much more complicated organization. In transmission and distribution you must set up crews to look after maintenance and answer complaints. You must have meter readers, accountants, and a much more complicated management is required. There are probably from 40 or 50 to 100 employees required for transmission and distribution to one that is required for generation.

In connection with this study, I have assumed an increase in domestic consumption in connection with probable requirements in the area. It shows an increase during the next five years of from 11,988,000,000 KWH to 17,600,000,000 KWH. That is a very liberal estimate and

I don't believe they will get it. I have figured that in this area there would be 869,000 farms electrified, and that they would each use 1,450 KWH per year. I have figured that there will be an increase of 598,000 non-farm homes at 1,200 KWH each per year. I have figured that there would be an increase of 120,000 commercial customers at 1,000 KWH each per year. In the urban districts, I have increased the domestic consumers in the areas where there is no natural gas to 1,200 KWH per year. In those communities where there is natural gas competition, I have increased them to 1,000 KWH per year. Consumption at the present time probably runs around 700 KWH per year. I have further estimated that the industrial consumption will increase to the 1929 level; that street lighting consumption will increase by 400,000,000 KWH, and electric railway consumption by 600,000,000 KWH per year. Then I have taken a 15% loss in company use, that gives 17,491,000,000 KWH for all classes of consumers. Upon a 57½% load factor, that would require 3,490,000 KW capacity, which would still leave a surplus in the territory of 510,000 KW. I am estimating that industrial consumption will return to where it was in 1929.

J. M. BARRY,

Called as a Witness on Behalf of the Plaintiffs, Testified as Follows on **Direct Examination:**

I am Vice-President and General Manager of the Alabama Power Company. The properties covered by the contract of January 4, excepting the lands at the Joe Wheeler Dam include 44,000 KV transmission lines and 44,000 volt substations; two primary substations operated at 110,000 and 44,000 volts, all of which are necessary to serve the urban properties covered by the option of Au-

gust 9. The contract of January 4 also includes some rural lines that are outside of the urban areas. The rural lines are served from the transmission lines, but in some cases through the urban distribution systems. One of the lines serves part of the northeast Mississippi area, and another one extends eastward from Decatur toward Huntsville. The load at Athens and at Bella Mina comes off of the 44,000 volt line between Decatur and Huntsville. (At this point map identified as Plaintiffs' Exhibit No. 46 was introduced in evidence.) The contract of January 4, in effect, provided an area in which Tennessee Valley Authority would operate and an area outside of which it was anticipated that we would operate. It was on that theory that we were willing to sell our transmission facilities in the area. Now if we can't sell our urban distribution systems, and if we part with our transmission systems, we will have no means of serving the distribution systems. If we continue to operate in the area we would have to construct new facilities. I have examined the figures set out in Section 18 in the paragraph beginning on the bottom of printed page 32 of the Bill of Complaint, and find that the figures set out there are correct. The rates of the Alabama Power Company that are now in force are substantially the same as those set out in Section 17 of the contract of January 4. At the time of the filing of the Bill and at the present time, the Alabama Power Company is serving all known demands of the public in the area of its operations, and it is fully equipped and prepared to serve all demands with a continuous and uninterrupted supply of energy. The Tennessee Valley Authority at the present time is serving in Northeast Mississippi, a rural area in Lauderdale County, Alabama, Athens, Alabama, and Pulaski, Tennessee. They have requested service from us to all four of those areas

and interchanges have been established. On the Mississippi service we deliver to Tennessee Valley Authority on the 44,000 volt line that serves that area at a point near the Mississippi State line. On the group of rural lines that are now serving Lauderdale County we serve Tennessee Valley Authority at a delivery point which connects with the system which we have in the area which serves Rogersville. At Athens the delivery point is right at Athens. In each case, we make what might be termed a wholesale delivery.

The Alabama Power Companay has no proprietary interest in the Georgia Power Company. It does not own any stock of that Company. The statistics and data set out in sections 36 and 37 of the answer of the Alabama Power Company are correct. The rates of the Alabama Power Company are of uniform operation throughout the State.

In negotiating the contracts of January 4 and August 9, Mr. Willkie and the officials of the Commonwealth and Southern participated in most of the actual discussions, but the officials of the Alabama Power Company were kept constantly in touch with the progress and scope of the negotiations.

In the City of Athens the Alabama Power Company has a franchise to serve industrial customers over a certain size as based on the horsepower motor. We have three or four customers connected with an urban distribution system that we built in the City of Athens that is not in any way connected with the municipal system of the city. At Belle Mina there is a small urban system that through some inadvertence in drawing the contract was left out. We negotiated with Tennessee Valley Authority for the sale of those two small properties. In other words, if those properties were not included they would be left isolated.

Plaintiffs' Exhibit No. 46 referred to above was a diagrammatic map showing the relation of the generating, transmitting and distributing facilities (not including local distribution) included in the Tennessee Valley Authority-Alabama Power Company contracts of January 4, 1934 and August 9, 1934. This map showed high tension switching and transformer yards at Wilson Dam for converting generator supply for voltage required for transmission system; connection from 12,000 volt bus in transmitting plant to adjoining step-up station; Alabama Power Company outgoing 44 KV transmission lines, switching stations, substations, various 110 KV, 154 KV, 44 KV and 22KV lines; also 11,000 volt, 6,900 volt and 2,300 volt distribution lines; the varying line voltages for the service of the respective distribution systems; the relation of these various lines to the urban distribution systems and rural distribution systems served by Alabama Power Company in Lauderdale, Colbert, Lamar, Limestone, Morgan and Franklin Counties, consisting of 193 miles of 11,000, 6,900 and 2,300 volt lines, showing the service of the following small communities over these rural lines: Barton, Hovater, Alexander, Wheeler, Hillsboro, Trinity, Moulton Heights, Flint, Eva, Fairview, Mooresville, Greenbrier, Tanner, Capshaw, Elkmont, Ardmore, Weeden Heights, Killen, Center Star, Lexington, Anderson and Rogersville, the urban distribution systems and the exchange points for the service of the Mississippi Power system.

SECTION II.

PLAINTIFFS' DOCUMENTARY EXHIBITS.

Demand Made by Stockholders.

On August 7, 1934, there was filed with Alabama Power Company by or on behalf of the plaintiffs a written communication, as follows, which, together with the writings relating to the matter set out below, were introduced as plaintiffs' Exhibit No. 12:

Birmingham, Alabama,
August 7, 1934.

To the President and Board of Directors of Alabama Power Company:

The undersigned as stockholders of Alabama Power Company desire to lay before the first meeting of the Board of Directors certain facts with reference to the Tennessee Valley Authority program, and to request action by the officers of the Company and the Board, as stated below:

(1) TVA is proceeding with its so-called "yardstick" program in a manner that clearly involves the destruction of equity values of Alabama Power Company. If TVA proceeds with its program as to Alabama Power Company on the same relative basis on which it has forced the proposed sale of the transmission lines and Wheeler Dam property and flowage lands as reflected in the contract dated January 4, 1934, heretofore submitted to the Alabama Public Service Commission, the result would be to wipe out the common stock and liquidate the preferred stock of Alabama Power Company on a nominal basis.

(2) TVA is no longer concealing the fact that its "yardstick" program involves direct utility opera-

tions by TVA to the extent necessary to absorb the output of all existing and proposed hydro-electric units comprising the program. In view of the existing and prospective market for electric energy, it is incontestable that a large part of the surplus energy proposed to be created under its present program contemplating seven dams must be sold in the area now supplied by the Power Company and that the TVA program means retreat by the Power Company to the Gulf and its inevitable attrition and absorption by TVA at a fraction of its prudent investment or sound value.

(3) It is not possible that the officers, counsel or Board of Directors of Alabama Power Company can individually or officially believe that the TVA has any lawful power as an agency of Congress or otherwise to engage in competitive utility operations on the scale and under the circumstances proposed, or to use federal funds to that end. This being true, there is an indisputable obligation upon the Company to protect its security holders from loss and its properties and system from disintegration by every reasonable and proper effort to avoid that result and to refrain from compounding a vast and irrevocable public wrong assuring the Company's own destruction.

(4) Under the prevailing influence of Senator George W. Norris, the TVA act purported to confer upon the Authority the discretionary powers of a corporation or individual, thus effectively withrawing the functions of the Authority from definition of any rule of action and from Congressional control to the extent of the full expenditure of appropriations heretofore or hereafter made available for its general purposes. Up to date this includes $50,000,000 of bonds, $50,000,000 covered by the Fourth Deficiency Act of 1933, and such parts of the $899,675,000 appropriated by the Emergency Deficiency Act, Fiscal Year 1935, as may in the sole discretion of the Presi-

dent be allocated to this program. These appropriations and powers, subject to no test of law, no revision and no responsibility except the remote action of the electorate, which was not the test contemplated by the Constitution, have effectively withdrawn TVA from any hope of restraint by Congress so far as the first two appropriations and bond issue are concerned.

(5) Notwithstanding the definite commitment of the President as Governor of New York to the legal position of the State of New York as asserted by its St. Lawrence Authority, to the effect that the State of New York and not the government of the United States had the basic right to the surplus power to be derived from improvements of the St. Lawrence within the State of New York and notwithstanding his reiteration over many years of public and official utterances that "yardstick" generation of electricity was a state function, the President has now committed himself to the conflicting principle that "yardstick" utility operation, as a primary end in itself, is a federal function. There is accordingly no tangible hope that TVA directors will be admonished by the Executive to confine its functions to those which are within the scope of the Constitutional Power of Congress.

(6) Congress, anticipating the probability of a violation of authority by administrative agents with vast funds available and no practical definition of function or limitation of power, instructed the Comptroller General to examine its records and report "any transaction or condition found by him to be in conflict with the powers and duties intrusted to the Corporation by law." The Comptroller General has made no examination and no report and has, on the contrary, declined to submit to citizens questioning the legality of the acts of TVA reports and opinions as to its legalities except in response to process, and has failed to answer inquiry as to whether he has made the audit required by Section 9 (b) of the Tennessee Valley Au-

thority Act. There is accordingly no hope of any effective cooperation from that source.

(7) The only recourse against the continued usurpation of functions by TVA and its eventual annihilation of the equity of the stockholders of Alabama Power Company is by appeal to the Courts.

The TVA has approved your rates. They have forced the utility in Tennessee to adopt your schedules, long since effective in Alabama. They publish to the world that your rates are cheap rates, approved for the TVA-EHFA peddling program. The latest high pressure sales document released by the TVA's agency organized to force electric appliances on the public, asserts that "Only where electricity is cheap will the government extend its easy-term purchase plan for home appliances bearing the red, white and blue insignia of the Authority." Notwithstanding this approval of your rate structures and like action as to other principal utilities in the Valley area, the TVA is pressing forward with its program, with explicit assurances that as rapidly as its hydro-electric units are completed, it proposes to force these utilities out of the market by engaging directly in utility operation or in subsidizing public agencies to that end.

We repeat, that your only recourse is to the Courts. Instead of making that last gesture of self-preservation, the Company is compounding this public wrong by yielding to the duress of this program and by entering into contract with this agency for the misappropriation and waste of public funds in furtherance of the program in its essential details.

(8) It is publicly reported that you have entered into a contract with the EHFA, as an admitted agency of the TVA, and are acting as its agent in the matter of instalment paper under the EHFA program. It is an incontestable fact that this agency is making unlawful use of federal funds in its business of promoting the sale of electric appliances throughout the

State of Alabama, constituting no lawful function of the government of the United States. Its endless publicity, in glaring colors and unrestricted statements, is easily the most reprehensible type of high pressure instalment selling that has reared its head out of the muck of the past. Its latest document is teeming with false or misleading statements or intimations calculated and intended to impose upon the ignorant and uninformed, such as that "The Government has charged the Authority with the definite responsibility of protecting your income;" that the construction of the Cove Creek Dam will make possible the manufacture of cheap electricity "which will bring ease and comfort to the people of the Valley," that "electrically operated tool industries and small farming plots for each family" (at the town of Norris) "will assure every household a secure, comfortable life;" that under the program "with the application of power, bauxite becomes aluminum and phosphates become fertilizer;" that "cheap power in large quantities will turn many other minerals in the region to man's use;" that "public control over rivers will produce cheap electricity;" that "cheap electricity and low cost electric appliances build happier and healthier farm families;" and that all of this ballyhoo is the action of the Government of the United States.

There is no element of that peddling program that is not reprehensible or in violation of law. Not a single utility in all the melancholy past has been guilty of the misleading statements and misrepresentation in the extension of its market which are packed in these florid slogans and colored paragraphs of the EHFA. For the first time in its existence the Government of the United States is charged by its own agency with being a cheap and mendacious peddler of washing machines.

Complicity in this libel upon the Government and treason to the Constitution is being forced on the

Alabama Power Company by Section 18 of the contract of January 4, 1934, under which that Company has accepted the ballyhoo of the EHFA campaign. That program is not only a violation of the fundamental law of the land; it is unworthy of the constructive history of the Alabama Power Company, and should be summarily discontinued.

Under these conditions we respectfully insist that the officers and Board of Directors of Alabama Power Company take immediate and appropriate steps by corporate action and suit

(1) To annul the alleged contract dated January 4, 1934, and the amendment thereof dated February 13, 1934, between Alabama Power Company and others with TVA, in so far as Alabama Power Company is concerned.

(2) To terminate performance in any respect of that contract and to refrain from executing and delivering to TVA the transmission lines, utility properties and lands proposed to be transferred as set out in the proceeding heretofore pending before Alabama Public Service Commission in Docket No. 6604.

(3) To refrain from further transactions with or conveyances to TVA looking to or relating to the latter's use or acquisition of properties or systems of Alabama Power Company for the purpose of engaging in the operation of a utility in Alabama within the area now served by Alabama Power Company.

(4) To refrain from any transaction with or conveyance to the TVA tending to effectuate on its part a departure from the Federal Constitution or a violation of the laws of Alabama relating to the qualification of utilities, the effect of which would be to further the TVA program of creating and marketing power as a utility or otherwise.

(5) To terminate its agency contract and relations with TVA's acknowledged agency, the so-called Electric Home & Farm Authority, Inc.

In particular, we respectfully insist that Alabama Power Company file suit immediately against TVA and its directors and agents (a) to declare unconstitutional and void the Tennessee Valley Authority Act; (b) to enjoin and restrain TVA, its agents and agencies from the construction of hydro-electric plants with a view to the proprietary sale of the energy to be produced by such plants for distribution or consumption in the State of Alabama; (c) to enjoin these agencies from using public funds to further their program of unlawful competition with Alabama Power Company or to make effective further acts of duress toward Alabama Power Company.

We are advised by public releases issued by TVA that the Alabama Power Company has agreed to sell thirteen urban distribution systems to TVA, has agreed on the terms and will shortly proceed with the transfer. It is essential that prompt acknowledgment should be made of this communication and that prompt action be taken by your officers and Board to stop this proposed transfer.

We stand ready to lay before you in detail the nature of the bill of complaint which we consider essential to redress these threatened wrongs and to present in further detail the facts on which this action is urged. We are certain that our position in this matter reflects the attitude of the overwhelming weight of opinion of the holders of preferred stock of Alabama Power Company.

We will appreciate your immediate advice as to the conclusions of the Board in order that the stockholders of the Alabama Power Company may take steps to protect their interests as stockholders if the corporation shall fail to protect them.

The above communication was presented and read at a meeting of the Board of Directors of Alabama Power Company held at Birmingham on August 9, 1934. The minutes of that meeting recite that on account of the importance of the questions raised, the board considered that the communication should be set out in the minutes and it was so recorded.

After discussion the Board adopted a resolution that the communication be received and instructing the President of the Company to advise the stockholders who filed the communication as follows:

Reply of Alabama Power Company

(1) This company, acting through its board of directors, declines to express an opinion as to the constitutional validity of the Tennessee Valley Authority Act of 1933, that being a matter for judicial determination: For this reason the company does not undertake to defend the legal basis of the TVA power program, and is not basing its action on the assumption of the validity vel non of that program.

(2) There were and are obvious difficulties in obtaining a prompt and final test of the validity of the TVA power program. In 1933 this company was confronted with aggressive action by TVA looking to the acquisition of some of this Company's existing markets. Apparently the TVA had recourse to unlimited federal funds and in addition to this several municipalities took advantage of the recent act of the Legislature of Alabama, known as the Carmichael Act, and voted to establish municipal plants to utilize power from TVA and made applications to the Public Works Administration for loans with which to construct such plants. These loans were protested by the company, which protests were promptly overruled, and the loans approved by the local Public Works

Administration Board. Public statements made by TVA from time to time showed close cooperation with the Public Works Administration. By these means the company was faced with a destructive competition by immediate duplication of its transmission lines, as well as the duplication of its distribution systems in the Muscle Shoals area. As the threatened procedure could have been made effective in substantial respects through the use of emergency relief funds, the management was of the opinion that an effective and orderly test of the legalities was impracticable.

(3) Under these circumstances the company has considered that the most satisfactory alternative was to yield to the insistence of the TVA, obtain the best price obtainable for the transmission and distribution systems demanded by the Authority as a minimum, and protect the company with the best obtainable agreement for limitation of competition by the Authority through federal funds. This contract resulted in the agreement of January 4, 1934, as amended by agreement dated February 13, 1934, referred to in the communication of stockholders.

(4) Since the execution of this agreement TVA has revised its proposed relations with the municipalities in the Muscle Shoals area and now proposes to acquire the stipulated properties of this company for direct utility operations both urban and suburban by the TVA.

(5) Notwithstanding this change in program, the management conceives that the contract has been entered into, and the company is accordingly committed to its execution in good faith. It has tentatively agreed with TVA as to the purchase price for the distribution systems and proposes shortly to make application to the Alabama Public Service Commission for authority to transfer those properties. The price proposed is materially less than the book value of the properties and materially less than the manage-

ment conceives to be the fair value of the properties, but it represents what in the opinion of the management is the maximum price which the Tennessee Valley Authority will pay for the properties as the alternative to duplication and direct competition under TVA rate schedules.

(6) For these reasons the Board of Directors declines to suspend the execution of the contract or to assume the burden of challenging the legality of the Tennessee Valley Authority program.

(7) The request set out in the above communication is accordingly declined, and you are advised that the Company will not file suit as requested.

(8) The Board and management of the company regret differences of opinion as to fundamental questions of policy upon matters of extreme importance, and assures the stockholders presenting the communication and all other stockholders that in determining upon the company's course in these matters the Board of Directors and the management have acted only after careful consideration, and that this final action on the communication following so closely upon its receipt by no means indicates that the matters presented have not been given extended and continuing consideration.

(9) In presenting the communication in question, counsel for the stockholders have requested in their name that in the event that the Board of Directors should not see fit to initiate action as requested, they call a meeting of the stockholders to consider the request. There is no regular meeting of stockholders scheduled until April 15, 1935. The by-laws require ten days notice of a special meeting. The company, in proceeding with the agreement of January 4, 1934, must proceed within a few days to execute and request releases from its trustee of the transmission lines and properties the sale of which has been

approved by the Commission, and must make application to the Commission for approval of the sale of the distribution systems as tentatively agreed. It is not practicable to delay these matters pending a convenient meeting of stockholders.

This action by the Board was communicated to the stockholders by letter from Thos. W. Martin, President, Alabama Power Company, dated August 11, 1934, enclosing a copy of the resolution adopted August 9th, 1934, and advising as follows:

"In accordance with your request, your letter was read at length at the meeting of the Board of Directors held on the 9th day of August, and after full consideration the board passed a resolution declining to take the action requested by you and your associates, a copy of which is enclosed."

The following request on behalf of plaintiffs was made upon Commonwealth & Southern Corporation:

August 8, 1934.

Mr. W. L. Willkie, President,
Commonwealth & Southern Corporation,
20 Pine Street,
New York City.

Dear Sir:

Enclosed herewith is a communication dated August 7th, by representative holders of the preferred stock of Alabama Power Company. The communication is directed to the President and Board of Directors of that Company. Its purpose is to urge that the Company take corporate action, in accordance with the communication, to put an end to the attrition of the business of the Alabama Power Company directly threatened by the Tennessee Valley Authority program.

These stockholders do not know what action will be taken by the Board of Directors. It is obvious that in order to prevent the final commitment of the Company to the threatened program, prompt action must be taken. If the Board of Directors should decline to accede to the request of these stockholders, they would have no recourse except through the institution of a stockholders' suit in their own name, unless the Commonwealth & Southern Corporation should effectively assert its stock control to that end.

The transfer of the transmission lines and Wheeler Dam property, approved by the Alabama Public Service Commission, is imminent. Public announcements have been made of the intention to transfer thirteen North Alabama utility systems, and doubtless application for the approval of this transfer will be made shortly to the Alabama Public Service Commission. While the disposition of individual properties is ordinarily a function of the Board of Directors, these stockholders are of the opinion that the transfers in question in effect commit the Company to indefinite and progressive mutilation and that the action threatened is accordingly subject to control by the stockholders. We are advised that the Commonwealth & Southern Corporation, as the holder of all of the common stock of Alabama Power Company, holds the voting control of the stock.

This letter is accordingly written you as President of the Commonwealth & Southern Corporation to supplement the request made by these stockholders upon the Board of Directors, and to ask that you join them in bringing about a prompt meeting of the stockholders for the purpose of instructing the Board of Directors and management to take the action requested in the communication to the Board, or such similar action as may be deemed necessary, and in any event, to cooperate towards the call and holding without delay of a meeting of the stockholders.

The situation is extremely grave. The survival of

the Alabama Power Company and the protection of its stockholders' equity is at stake. For these reasons your prompt consideration and action is requested.

Respectfully yours,

Cabaniss & Johnston.

To this request, the President of Commonwealth & Southern Corporation replied under date New York, August 13, 1934, replying in substance as follows:

"During the discussion of the Muscle Shoals Act I appeared before the Military Affairs Committee of the United States House of Representatives and presented what I thought were complete and sound reasons why Congress should not pass that Act and expressed the opinion that the legislation would seriously and injuriously affect the interests of the stock and bond holders of the operating utilities in the Muscle Shoals zone. Congress, however, passed the Act and appropriated $50,000,000 to the Tennessee Valley Authority, authorized it to issue $50,000,000 of bonds and thereafter appropriated to the Authority $48,000,000 more.

The Authority announced a power policy which, if carried to full fruition would have meant the total destruction of the equity of the operating company security holders. Under the circumstances it seemed to us to be the part of wisdom to make such concessions as were necessary in order to arrive at an amicable agreement with the TVA.

You and I and all security holders of utility companies as well as a great many other people, believe that the destruction of private investment by government competition is a ruthless and uneconomic procedure.

We, however, were faced with a fact—not a theory—the power, whether constitutional or not, was granted, the money appropriated, the instrumentality

in being and to have attempted to contest the constitutionality of the Act might have led, in the event of failure or if long delayed, to the total destruction of the value of all the utility properties affected. Wisdom dictated to us to adjust ourselves to the declared program and cooperate with the minimum sacrifice necessary."

Subsequent demands were made upon Alabama Power Company in writing under date December 11 and 19, 1934, by or on behalf of the plaintiffs (included in plaintiffs' Exhibit No. 12), as follows:

Birmingham, Alabama,
December 11th, 1934.

To the President and Board of Directors of Alabama Power Company, and to Commonwealth & Southern Corporation, holder of the majority of the voting stock of Alabama Power Company:

The undersigned, on behalf of themselves and all other preferred stockholders of Alabama Power Company, direct to your attention the facts and request immediate action as set out below:

(1) In the pending suit instituted by the undersigned and removed by Tennessee Valley Authority to the United States District Court, the Court has been requested to render decree relieving Alabama Power Company from the contracts of January 4, February 13, and August 9, 1934, (Exhibits 5, 5-a, and 6 to Bill of Complaint); and also from illegal competition threatened by TVA through proprietary operations by TVA of generating plants and transmission lines and systems.

We contend that the averments and prayer of this bill of complaint are adequate to afford a basis for relief from all of the illegal actions threatened by TVA and its illegal program in so far as they threaten

competitive injury to Alabama Power Company and in so far as they involve Alabama Power Company in contracts for sale of its properties and in agency contracts.

We also conceive that the bill itself and the prayer are adequate to warrant complete relief under the Declaratory Judgment Act of June 14, 1934.

(2) In the discussion of preliminary motions, the U. S. District Court has indicated the possibility that the relief to which plaintiffs are entitled is the cancellation of the contracts, on the theory that the management of Alabama Power Company may not decline in the name of the Corporation hereafter to assert any rights to protection from other threatened illegal action by TVA and other defendants. As a matter of fact, the stockholders' demand made on the management and declined by it specifically demanded that the Company take steps.

(a) To declare unconstitutional and void the Tennessee Valley Authority Act;

(b) To enjoin and restrain TVA, its agents and agencies from the construction of hydro-electric plants with a view to the proprietary sale of the energy to be produced by such plants for distribution or consumption in the State of Alabama;

(c) To enjoin these agencies from using public funds to further their program of unlawful competition with Alabama Power Company or to make effective further acts of duress toward Alabama Power Company.

There was also presented to the management a copy of the original bill of complaint in the final form in which filed and before it was filed, accompanied by the insistence that the Company take action.

Under these circumstances we shall insist that the stockholders have the right to full relief on behalf of the corporation as to the illegal plan and program

of TVA threatening injury to Alabama Power Company.

This includes the program itself in its entirety, viz., threatened generation, transmission and distribution of electricity as a proprietary or competitive utility operation. The contracts for the purchase of Alabama Power Company properties are merely one means to the illegal end. The illegal end is proprietary or utility operation. Any other means which takes the property or injures the business of Alabama Power Company is included, such as direct construction and operation or construction and operation through the agency of municipalities aided by federal funds and under contract with TVA.

But TVA is strenuously and of necessity contending that relief to the complainants must be limited to the cancellation of the contracts, leaving TVA free to proceed with its illegal plan and program, to the competitive destruction of Alabama Power Company, by direct construction and operation by TVA of the facilities or by construction and control by TVA acting through agencies.

As the matter now stands this stockholders' suit has demonstrated the illegality of the program. If it does not result in full and definitive relief the fault will be with the management of Alabama Power Company. It will be tragic if by reason of the latter's nonaction, the Court should limit relief to the annulment of the contracts, leaving the Company or its stockholders faced with the necessity of further suit to obtain the effective relief plainly within the scope of this hearing.

(3) It may well be anticipated that TVA will request from Congress repeal of the provision making TVA subject to suit and restoring the original Senate provision making it subject to suit on or in respect to breach of its contracts. This would confuse the Company's remedy or force suit against the TVA

directors in Tennessee, where the agency towns would not be subject to suit.

(4) These possibilities of prejudice can be fully and completely removed by the filing of a cross-bill by Alabama Power Company in the present suit against TVA and the co-defendant Towns which are threatening to use federal loans and grants to carry on the TVA program, under its domination and control.

Under a cross-bill there could be no doubt whatever, in this proceeding, with final hearing set definitely for January 28th, that the illegal threat of TVA can be proven and prevented and that declaratory decrees can be properly insisted upon promptly, decisively and upon a single record.

(5) The undersigned hereby formally insist and demand that the management of Alabama Power Company proceed immediately to file a cross-bill, for the purposes of assuring full relief to the Company upon and in the event of the cancellation of the contracts mentioned.

(6) If the Company is left unprotected by the management in this crisis it will be their responsibility. They can, by invoking the jurisdiction of the court, remove any possibility of doubt as to the scope of the remedy. If they do not act now and avail themselves of this opportunity and the Company is seriously injured and the illegality of the TVA program is not fully decreed and declared in so far as it threatens competitive warfare in the service area of Alabama Power Company, the management will have failed in its duty and will be held accountable.

Stockholders can not be expected to continue to assert the rights of the corporation, at heavy expense and with the handicap of your supineness and intimidation in the face of the most flagrant usurpation of function this Nation has witnessed.

TVA has stated publicly that it proposes to take a market for its power. You are proposing to let it take the Company's market without a struggle, although by slight cooperation on your part you can assure a complete and definitive declaration of the illegality of the program as well as adequate injunctive relief.

This is to demand action and to notify the Board of Directors that they will be held responsible for non-action which may result in injury to the corporation. Like demand and notice to the Commonwealth & Southern Corporation and its officers and directors is hereby made.

Yours very truly,

George Ashwander, et al., Plaintiffs,
Alabama Power Company Preferred Stockholders Protective Committee.
By Cabaniss & Johnston, Attorneys.

Birmingham, Alabama,
December 19th, 1934.

To the President and Board of Directors of Alabama Power Company and Commonwealth & Southern Corporation, holder of the majority of the voting stock of Alabama Power Company:

Supplementing the communication to you dated December 11, 1934, we beg to advise as follows:

1. Since the communication of December 11th, the Tennessee Valley Authority has by formal communication advised the fourteen municipalities included among the defendants in the suit of George Ashwander vs. Tennessee Valley Authority et al. to proceed with their applications for loans from Public Works Administration for the purpose of constructing competitive distribution systems. The public press con-

tains statements from representatives of these municipalities to the effect that they are accordingly expediting applications and will proceed promptly with the construction of competitive distribution systems in their respective areas.

2. At the same time we are advised that the Tennessee Valley Authority is expediting its acquisition of rights-of-way for the purpose of constructing transmission lines paralleling lines of the Alabama Power Company.

3. This action plainly calls for immediate action for the protection of the interests of the Alabama Power Company against the illegal competition threatened through the use of federal funds by the municipalities for construction of competitive utility systems in furtherance of the Tennessee Valley Authority program of utility transmission and distribution, and also the direct competitive utility operations contemplated by the Tennessee Valley Authority.

4. Unless the management of the Alabama Power Company proceeds immediately with action on its behalf, it is certain that such action would not mature in time for submission by the date fixed for final hearing of the Ashwander suit.

5. While we recognize that the developments above enumerated have been potential as alternatives from the outset, the necessity for bringing them definitely before the court is obvious. It is also obvious that the equivocal position taken by the Tennessee Valley Authority in connection with the matter leaves in doubt the question whether it proposes or does not propose to attempt to hold Alabama Power Company to the option relating to the distribution systems covered by the agreement of August 9, 1934, and whether it intends to repudiate formally the so-called agreement dated January 4, 1934. Representatives of the Tennessee Valley Authority have stated pub-

licly that they consider that Alabama Power Company has committed a breach of said agreements by reason of alleged cooperation in the institution and prosecution of this suit or otherwise, leaving in doubt whether the Tennessee Valley Authority intends or does not intend to terminate said alleged contracts for alleged breach by the Alabama Power Company.

Under these circumstances, continued inaction by the management of the Board of Directors of Alabama Power Company would obviously constitute a breach of duty to the Company and jeopardize its interests.

For the reasons stated, it is insisted that the Power Company take definite action in the pending suit to protect the Company against the threatened consequences of illegal competition by the defendant municipalities in furtherance of the TVA program through the use of unlawfully diverted federal funds, and also specifically to avoid the threatened competitive duplication of facilities by Tennessee Valley Authority.

The Alabama Power Company as a taxpayer and creditor of the respective municipalities proposing to construct municipal systems through the aid of federal funds and under contract with the Tennessee Valley Authority, and as threatened with illegal competition, has the justifiable right to maintain a suit to prevent the threatened wrongful action.

Your attention is also directed to the fact that if the agreement of January 4, 1934, were otherwise valid, the action of the Tennessee Valley Authority above mentioned would be in violation of that provision of the agreement to the effect that TVA covenants and agrees to use its best endeavors to assist in bringing about the purchase of the respective distribution systems set out on Exhibit B by the respective municipalities at fair prices.

In short, by holding the option evidenced by the agreement of August 9 and the extension thereof over

the head of the Alabama Power Company urging the towns to proceed with their own construction, the Tennessee Valley Authority is so manipulating the situation as to coerce the Alabama Power Company and to confuse its rights and position. This situation imperatively demands immediate action on behalf of the Company for affirmative injunctive relief as well as for declaratory relief.

In view of the necessity for immediate action, will you kindly advise the undersigned not later than December 22nd what, if any, immediate action is proposed by the management and by the Company in its own protection.

Very truly yours,

George Ashwander, et al., Plaintiffs,
Alabama Power Company Preferred Stockholders Protective Committee,
By Cabaniss & Johnston, Attorneys.

At a meeting of the Board of Directors of Alabama Power Company held December 20, 1934, the foregoing communications were read to the Board and ordered to be incorporated in the minutes and a resolution adopted declining corporate action for the reasons stated in the resolution of August 9, 1934; all of the foregoing being included in plaintiffs' Exhibit No. 12.

Plaintiffs introduced in evidence (Plaintiffs' Exhibit No. 13) a certificate by the Secretary of the Alabama Power Company to the effect that Alabama Power Company held electric franchises in the following cities and towns in Alabama in the area affected by the contract of January 4, 1934, between Tennessee Valley Authority and the Commonwealth and Southern Corporation and its subsidiaries, viz.: Albany, Ardmore, Athens, Austinville, Cherokee, Courtland, Decatur, Elkmont, Falkville, Hartselle, Hillsboro, Leighton, Moulton, Red Bay, Rogersville, Russell-

ville, Town Creek and Trinity, all of which franchises were perpetual in duration with the exception of the franchises of Albany and Decatur which expire January 27, 1950; and to the effect that Alabama Power Company held electric franchises along the public roads in the counties of Colbert, Franklin, Lawrence, Limestone and Morgan, in the State of Alabama, all of which are perpetual in duration.

Plaintiffs introduced in evidence (Pl. Ex. No. 14) representative types of orders by the Alabama Public Service Commission constituting certificates of convenience and necessity issued to the defendant Alabama Power Company, and a schedule listing eighty-nine such certificates granted to the defendant Alabama Power Company and its predecessor company for the construction of dams, hydro electric power plants, transmission lines, steam generating plants and distribution systems, covering a period from 1920 through 1933. Representative types of such certificates of convenience and necessity are set out as Document No. 1 in the Appendix to this narrative.

Plaintiffs introduced in evidence (Pl. Ex. No. 14-A) a form of the License of the Federal Power Commission granted to the Alabama Power Company, the particular one offered being The Federal Power Commission Project No. 82, Alabama, dated June 27, 1921. This license recited among other things that Alabama Power Company, hereinafter called "Licensee" had made an application to the Commission for license for a power project and for the Authority to construct, operate and maintain at a site known as Duncan's Riffle, on the Coosa River, in the Counties of Coosa and Chilton, in the State of Alabama, certain project works, necessary or convenient for the development and improvement of navigation and for the de-

velopment and transmission and utilization of power across, along, from and in the Coosa River and further recited that the Licensee had submitted to the Commission satisfactory evidence of its compliance with the laws of the State of Alabama as required by Section 9, subsection (b), of the Act, and of its ability to finance the construction of said project works, and that the maps, plans, and specifications of the project and of the project works had been approved by the Commission and the plans for the dam and other structures affecting navigation had been approved by the Chief of Engineers and Secretary of War. It is further recited that the Commission finds that the project is best adapted to a comprehensive scheme of development and utilization of said waterway for the purpose of navigation, of water power development and of other beneficial public uses; that the contemplated improvement is desirable and justified in the public interest for the purpose of improving and developing a waterway, and that on the 21st day of June the Licensee had accepted in writing all of the terms and conditions of the Act and of the license.

The license is for the purpose of constructing, operating, and maintaining for a period of 50 years from the date thereof the project works therein described, necessary or convenient for the development and improvement of navigation and for the development, transmission and utilization of power across, along, and from the Coosa River, subject to certain expressed conditions and limitations among which are:

1. The license shall be for the development of hydro electric power by the construction of a dam across the Coosa River at Duncan's Riffle, designated by the Licensee as "Mitchell Dam," and the construction of a high tension

transmission line or lines to connect the project with the existing primary transmission system of Alabama Power Company at a point of junction at Lock 12 on said Coosa River, the several parts of the project being a dam and reservoir, power house and the above mentioned transmission lines.

2. That the project works be constructed in substantial conformity with maps, plans, and specifications which are made part of the license.

3. Licensee shall construct and install such appliances as are necessary for furnishing power for the operation of navigation facilities free of cost to the United States.

4. Licensee will be required to permit, unless otherwise authorized by the Secretary of War, continuous discharge past the dam of all water discharged into the pool created by the dam, when the discharge is five thousand cubic feet per second or less.

5. The payment by the Licensee of annual charges for any calendar year shall be made to the United States at the end of the year or within thirty days thereafter upon bills rendered and approved by the Commission; charges to be determined in accordance with the provisions of Regulation 14, of said rules and regulations of the Commission.

6. After the first twenty years on certain conditions a portion of the surplus earnings as defined in and determined by the provisions of Regulation 17, shall be paid into and held in amortization reserve.

7. The Licensee shall abide by such reasonable regulation of the service to be rendered to the customers or consumers of power and of rates and charges of payment

therefor as may from time to time be prescribed by any duly constituted agency of the State in which the service is rendered or the rate charged. In case of the development, transmission, distribution, sale or use of power in public service by the Licensee or by its customer engaged in public service in any State which has not authorized and empowered a commission to regulate and control the services to be rendered by the Licensee or the rates and charges of payment therefor, or the amount or character of securities to be issued by any of said parties, it is agreed that jurisdiction is hereby conferred upon the Commission to exercise such regulation and control until such time as the State shall have provided a Commission or other authority for such regulation or control.

Plaintiffs introduced in evidence (Pl. Ex. No. 14-B) a copy of an original map on file in the Federal Power Commission filed as a part of the License by the Alabama Power Company Project No. 618 Alabama. This map shows the transmission lines and generating plants of defendant Alabama Power Company and that the service area affected by Project No. 618, extends to the area affected by the contract of January 4, 1934, between Tennessee Valley Authority and the Commonwealth and Southern Corporation and its subsidiaries.

Plaintiffs introduced in evidence (Pl. Ex. No. 15) an excerpt from the minutes of the meeting of the board of directors of Alabama Power Company held on the 6th day of January 1934, being an excerpt of the first action appearing on the minutes of the directors of said Company relating to the contract of January 4, 1934, between Tennessee Valley Authority, The Commonwealth & Southern Corporation and others to the following effect:

The Chairman presented and read to the meeting a copy of the proposed contract dated January 4, 1934, between

the Company and The Commonwealth & Southern Corporation, Tennessee Electric Power Company, Georgia Power Company and Mississippi Power Company with the Tennessee Valley Authority and upon motion duly made and seconded the officers of the Company were authorized to execute on its behalf, together with the above named companies, the said proposed contract.

The plaintiffs introduced in evidence (Pl. Ex. No. 16) an excerpt from the minutes of the meeting of the board of directors of Alabama Power Company held on the 9th day of August, 1934, being an excerpt of the first action appearing in the minutes of the directors of said Company relating to the contract of August 9, 1934, to the following effect:

The Chairman presented and read to the meeting a copy of a proposed contract dated August 9, 1934, between the Company and the Tennessee Valley Authority whereby the Company gave and granted unto the Authority the right, privilege and option to purchase from the Company certain urban distribution systems of the Company in certain cities and towns and on motion duly seconded the officers of the Company were authorized to execute on its behalf the proposed contract above mentioned.

The plaintiffs introduced in evidence as Exhibit 23 correspondence between Wendell L. Willkie, President of the Commonwealth and Southern Corporation and representatives of the Tennessee Valley Authority, pertinent extracts from which are here set out:

From Arthur E. Morgan to Wendell L. Willkie

July 12, 1933

"**Second.** We are told that an active drive is under way by your employees to acquire franchises in areas

which might be served with power by the Tennessee Valley Authority. Under these circumstances it seems advisable for the Tennessee Valley Authority to also enter into negotiations with communities that have requested us to consider the sale of power."

From Wendell L. Willkie to Arthur E. Morgan

August 30, 1933

"I have noticed the press dispatches of the statements issued by you and Mr. Lilienthal on the power policy of the Tennessee Valley Authority. Your reference to the co-operation of the utility companies was of particular interest to me. As I told you in our first exchange of letters, and at the time of our conference, The Commonwealth & Southern Corporation (representing the Georgia Power Company, Alabama Power Company, The Tennessee Electric Power Company, South Carolina Power Company, Gulf Power Company, and Mississippi Power Company) is desirous of cooperating with your Authority for a feasible rational solution of the problem. If you will designate the time and place, I shall be very glad to discuss the cooperative features with you and Mr. Lilienthal, or either of you."

From Llewellyn Evans to Wendell L. Willkie

November 20, 1933

"I am planning to be in New York with Mr. David E. Lilienthal Thursday and Friday of this week. I would like to confer with you or your engineers in the matter of the purchase of your facilities to serve the City of Tupelo, Mississippi.

"For the initial development we could use an interest in

your 44,000 volt step-down facilities at Nitrate Number two Steam Plant and your 44,000 volt step-down facilities at Tupelo.

"We might at the same time make further progress toward the purchase of all your facilities in Northern Mississippi."

From V. D. L. Robinson for Mr. Lilienthal to Wendell L. Willkie

January 5, 1934

"The agreement between Commonwealth and Southern Corporation and its constituent companies and the Tennessee Valley Authority entered into yesterday states that until the completion of Norris Dam with a consequent addition to our generating capacity, (or in any event not to exceed five years), the Tennessee Valley Authority will not sell electric energy to municipalities, corporations, partnerships or individuals which your companies now serve except in certain counties in Mississippi, Alabama and Tennessee, which are specifically named in the agreement, with certain exceptions specifically set out in agreement.

"We have discussed the meaning of this provision thoroughly on a number of occasions. The purpose of this letter is to set out our understanding of the meaning and spirit of the above provision of the agreement. By this provision the Tennessee Valley Authority has agreed not to enter into a **contract for the sale of electrical energy** under the conditions specified in the agreement. It is not, however, in any way in violation of this agreement for the directors of the Tennessee Valley Authority, or the members of its staff, to confer with representatives of municipalities, corporations, associations, or with individuals outside the specified areas desiring information concerning

the purchase of electric power from the Tennessee Valley Authority at a time when Norris Dam is completed, and additional power is thus available. It is my understanding that it is not a violation of the agreement for the directors of the Authority, or the members of its staff, to make statements, publicly or privately, supporting, commending, or defending the activities of the Tennessee Valley Authority in any of its phases, nor does it prevent such statements at any place discussing the merits of public ownership generally or specific instances thereof.

"It is my further understanding that the officers, agents, and employees of the Commonwealth and Southern Corporation and of the power companies which are parties to the agreement and all of them, will take no steps tending to obstruct the work of the Tennessee Valley Authority or its operations contemplated by the agreement. On the contrary, it is my understanding of your position that you will take whatever steps are reasonably appropriate in effecting prompt transfer of the territory in question, and that you and everyone associated with you will take whatever steps are necessary to this end."

From V. D. L. Robinson to Ned Lee

January 29, 1934

"In reply to your letter of January 22, you probably have noted from the press the announcement of the contract made by the Authority with the Commonwealth and Southern Corporation and its constituent companies, including the Mississippi Power Company.

"While Webster County is outside the area which is specifically taken over from the Mississippi Power Company by the Authority, this contract does not preclude our giving further consideration to the application of Webster

County, particularly after Norris Dam is in production. I can assure you that Mr. Llewellyn Evans, our Chief Electrical Engineer, will give very careful consideration to your situation to determine just what, if anything, the Authority might be able to do for you prior to the completion of Norris Dam."

From V. D. J. Robinson to H. C. Rawls

February 15, 1934

"Receipt of your letter of December 29th together with the formal application from the City of Columbia, Mississippi for Tennessee Valley Authority power, and the answers to our standard questionnaire, is hereby acknowledged.

"We are immediately referring this complete file to our electrical engineer for a further study of your local situation and to determine the feasibility of serving your municipality with power from Muscle Shoals."

From David E. Lilienthal to Wendell L. Willkie

April 6, 1934

"I find myself in a curious dilemma about which I think you should be informed.

"In our conferences I assured you that the Tennessee Valley Authority would lend whatever influence it had to induce municipalities in the area involved in our negotiations to purchase the distribution systems in their communities from your Company, rather than construct competing plants with the use of loans from the Public Works Administration. The contract of January 4, 1934, reflects that position.

"Since the entry into the contract, no progress whatever

has been made toward the purchase of any of the Alabama municipal distribution systems involved, for the reason, as disclosed in the memorandum furnished me, that the Alabama Power Company has been unwilling to accept or even consider accepting municipal bonds in payment of these distribution systems.

"If these municipalities carry their plans forward, they have, it appears, almost no alternative but to seek to construct competing plants, since the only thing they have to offer in payment for your property is bonds, which are not acceptable to your people.

"Committed as we are to supplying this area with power, under contracts entered into with these communities, I see no alternative for me but to consider that our efforts to transfer these properties by purchase have encountered a stone wall, and that I should do whatever I can to assist these communities in carrying their program forward by the alternative method of securing funds from the Public Works Administration.

"It is very disappointing to me that no headway has been made in this direction in the three months since our contract was entered into. In every other respect the contract has proved to be as satisfactory as was contemplated, and in every other respect we have found your Company's execution of the contract everything that could be desired."

From Wendell L. Willkie to David E. Lilienthal

May 14, 1934

"I was just wondering, in view of the fact that you are occupying the Joe Wheeler Dam site and we are ready to convey it at any time, why this conveyance should not be consummated. We can use the $50,000."

From Wendell L. Willkie to David E. Lilienthal

May 24, 1934 (Telegram)

"Sorry Evans does not agree with Alabama Power Company engineers on values Stop This morning had Commonwealth & Southern Engineers make independent check and they arrive at approximately same figure as Alabama engineers Stop However do not want to hold you up on your program Stop Taking into account only Belle Mina distribution and Athens distribution and excluding motors our engineers find value of $33,379 while I understand from your wire your offer for same property is $25,660 Stop I will split the difference with you or in other words accept $29,518 Stop"

From David E. Lilienthal to Wendell L. Willkie

May 24, 1934 (Telegram)

"Offer of twenty nine thousand five hundred eighteen dollars for Athens distribution excluding motors and Belle Mina distribution accepted by Board Stop Please instruct Mr. Barry to push this matter along on his side and I will instruct our counsel in Birmingham to get in touch with Mr. Barry Stop Understand Alabama Power Company will give us delivery point at Athens as of June first kindly confirm and instruct Alabama Power Company Stop"

From David E. Lilienthal to Wendell L. Willkie

June 1, 1934

"The newspaper advertising by your companies in Tennessee, Alabama, and Georgia seems to me to call for revision. Especially it seems to me that a statement on the meaning of the emblem as prepared under my direc-

tion should be included in all such advertising in which TVA models are emphasized, including a reproduction of the emblem itself. The form of that statement was available, but it may be that our organization is at fault in not making that adequately clear to your merchandising departments.

"Electric Home and Farm Authority desires that in your advertising affecting EHFA appliances, that the emblem appear including the accompanying phrase, 'Electricity for All,' and that the meaning of the emblem be deseribed exactly in the following words:

> 'This is the emblem of the Electric Home and Farm Authority, an agency of the Tennessee Valley Authority. On an appliance, it means that the product is manufactured to standard quality specifications of Electric Home and Farm Authority, is priced reasonably, and is being sold in a community where electric rates are reasonable enough to make use of the appliance feasible for the family of modest income. All appliances bearing this emblem may be financed at low terms on the Electric Home and Farm Authority finance plan.'

Unless the reproduction of the emblem itself appears in the advertising copy, no mention is to be made of Tennessee Valley Authority approval or Electric Home and Farm Authority approval or similar phrase.

"As soon as conveyances are prepared which are acceptable on the land which the Alabama Power Company owns near the Wheeler Dam site, our Finance Division is prepared to pay for that land. I understand that the matter of these conveyances is being discussed between your counsel and our counsel in Birmingham."

From Wendell L. Willkie to David E. Lilienthal

June 18, 1934

"Since I saw you on June 13th I have been giving a great deal of consideration to the price to be paid by the Tennessee Valley Authority for the urban distribution systems excluding Athens and Belle Mina in the allocated area in Northern Alabama. I have also had the present physical condition of this property looked into. The Alabama engineers tell me that the replacement value of the property as of today's cost price is $1,386,000; that all of the property is in very satisfactory condition with perhaps some few minor exceptions in the towns in the immediate vicinity of Muscle Shoals.

"It seems to me that a reduction of the price by 10% for depreciation, in view of the fact that you are taking over an established business on which a great deal of money in excess of the bare replacement cost has been spent in its upbuilding, is a very substantial concession on our part.

"I wish I could conscientiously come to a lower figure because I do not want any act on our part to delay you in carrying forward your program. However, if I offered to sell for a lower price I would feel that I was but paying an additional amount to one agency of the Federal Government in order to eliminate the action of another Federal agency in loaning money to duplicate and destroy the value of the property under discussion."

From David E. Lilienthal to Wendell L. Willkie

June 15, 1934 (Telegram)

"Authority has retained Jackson and Moreland Engineering Firm of Boston to make a study respecting system

stabilization Stop Such study important not only to Authority but to your Southeastern properties since they are now and should continue to be interconnected Stop Over signature of B. B. Bessesen by letter June eleventh to your Mister Middlemiss request was made for data required by Jackson and Moreland for this study Stop Mister Middlemiss properly takes position availability of data question of policy for you to determine Stop Earnestly request that data needed for this study be made available under proper supervision by your company engineers Stop Suggest that full cooperation in this technical study by your engineers would be useful to you and to me in working out future policy problems Stop Appreciate your advising me as promptly as possible of your conclusion so that study now being delayed may proceed."

From David E. Lilienthal to Wendell L. Willkie

June 20, 1934 (Telegram)

"Regarding your letter June eighteenth urban distribution system in North Alabama regret your conclusion respecting adequacy of price Stop We believe your figure very substantially in excess of value of property everything considered including deductions for substantial depreciation and inadequacy particularly in TriCity area also considering your franchise situation in these communities Stop Want to do everything reasonable to avoid competitive situation in conformity with board's policy Stop Urge you to reconsider entire situation."

From David E. Lilienthal to Wendell L. Willkie

June 20, 1934

"The Tennessee Valley Authority believes that the acquisition by it of your properties in the allocated area

in North Alabama will be a constructive method of meeting a situation which is difficult and which inevitably will lead to bitter feeling and the wastes of competition. The public interest is, therefore, directly involved, and I consequently feel none of the compunction which I might feel as a private individual in urging you earnestly to re-examine this matter with a view toward a constructive solution."

From Wendell L. Willkie to David E. Lilienthal

June 28, 1934 (Telegram)

"Confirming our conversation of yesterday afternoon and in view of existing circumstances property in Northern Alabama referred to in our recent correspondence and communications Alabama Power Company will sell to you for One Million Dollars Stop You to have thirty days from date of this wire in which to work out matters with municipalities you have right of allocation of figure as per our telephone conversation yesterday."

From David E. Lilienthal to Wendell L. Willkie

June 23, 1934 (Telegram)

"Issued following statement tonight Quote After further negotiations comma the Tennessee Valley Authority today received a revised offer for the sale to the Authority of the electric distribution properties of the Alabama Power Company in northern Alabama period The price fixed is one with which the Authority is in substantial, though not entire agreement, provided the final figure is likewise agreeable to the municipalities involved. Inasmuch as the plan contemplates resale of these properties to the communities, the Authority will confer with them at an early date to learn whether such a program is acceptable to them, or whether they prefer to press their

applications for loans from PWA with which to construct new plants. The Authority believes that a purchase at a fair price will be in the public interest, as it will eliminate the delay involved in completing new distribution systems, and will avoid substantial losses to investors arising out of competition unquote Have wired PWA substance of this statement pointing out relationship of our offer to PWA consideration of these applications as being contingent on willingness of municipalities to cooperate in purchase program."

From David E. Lilienthal to Wendell L. Willkie

June 29, 1934

"It appears, however, that in the City of Florence there is a strong feeling in favor of utilizing the funds loaned by PWA in a recent allocation for the construction of a plant, this sentiment being based in considerable part upon an expressed lack of confidence in the adequacy of the Alabama Power Company's facilities in that community. For these and other reasons I suggested that the option should be in the alternative; (a) an option to purchase all of the distribution facilities in the Northern Alabama area referred to in our recent correspondence at a price; or, (b) an option to purchase all of the property except the distribution facilities in the City of Florence."

From Wendell L. Willkie to David E. Lilienthal

July 5, 1934

"Your option B is not as I understood our discussion. You will recall that at our recent conversation in Washington you requested that Alabama Power Company sell direct to you all of its distribution systems in the allocated area, although the contract provided that they should be

sold direct to the municipalities. I was agreeable to adopting your suggestion in this regard in order not to delay the consummation of your program. It was your suggestion as I recall, that I propose a total price for all of the distribution systems with the privilege to you of a reasonable delay in taking over the Florence distribution system.

"In considering the original proposal which I made you and the later amendment thereof, I took into account that we were to sell you all of the systems as well as the situation in regard to P.W.A. loans."

From David E. Lilienthal to Wendell L. Willkie

July 7, 1934

"Confirming our telephone conversation with respect to Option B, let me say that unless you can give me option on all the territory except Florence, and a separate option on Florence, the present refusal of Florence to adopt this plan will make it impossible for us to proceed with the program of purchase. This will leave open to the communities only the alternative of construction of duplicate facilities."

From Wendell L. Willkie to David E. Lilienthal

July 14, 1934

"Pursuant to our telephone conversation of Friday, I am enclosing herewith suggested form of option to be given by Alabama Power Company to the Tennessee Valley Authority for the purchase of certain urban distribution systems in the allocated area in northern Alabama.

Enclosure

"Whereas some of the cities hereinafter mentioned have

made and the others contemplate making applications to the Public Works Administration for the borrowing of money for the building of electric distributing systems; and

"Whereas the Vendee has agreed to supply said cities with electric power in case such loans are granted; and

"Whereas the Vendor is the owner of electric distribution systems within said respective cities;"

From Wendell L. Willkie to David E. Lilienthal

July 26, 1934

"I received late yesterday, the proposed form of option for the north urban Alabama distribution systems, sent by Mr. William E. Deans of your organization.

"I notice that your draftsman has completely changed the "Whereases" or premises. Our draftsman, before drafting the form which I sent to you, asked me what was the inducement which he could recite in the premises and I told him that the primary inducement actuating me as the representative of the Alabama Power Company in arriving at the price, etc., had been the availability and offer of loan of P.W.A. money, which, of course, was the fact. He accordingly so recited in the agreement, while your draftsman has set up an entirely different inducement, which was not the primary one on the question of price."

From Wendell L. Willkie to David E. Lilienthal

August 3, 1934

"As I told you over the phone yesterday, the Board of the Alabama Power Company meets a week from yesterday, at which time there will be presented to the Board